1 60 780 immigrants from the 72 high-burden countries registered between 2011 and 2014, of whom 1 29 942 (80.8%) arrived before 2011. These delayed registrants thus miss the window of opportunity for LTBI screening because the program targets arrivals within last five years. We estimated and compared TB incidence and LTBI service utilisation in the cohort of early vs delayed registrants. The program may be compromised by low and delayed primary-care registration, could be enhanced by promoting GP registration and community-based screening to reach unregistered migrants.

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S31 PROGNOSTIC VALUE OF INTERFERON GAMMA RELEASE ASSAYS AND TUBERCULIN SKIN TEST IN PREDICTING THE DEVELOPMENT OF ACTIVE TUBERCULOSIS: THE UK PREDICT TB COHORT STUDY

[1]I Abubakar, [2]F Drobniewski, [3]J Southern, [4]AJ Sitch, [1]C Jackson, [1]M Lipman, [1]JJ Deeks, [5]C Griffiths, [6]G Bothamley, [7]W Lynn, [8]H Burgess, [8]B Mann, [1]A Imran, [2]S Sridhar, [3]CY Tsou, [3]V Nikolayevskyy, [2]M Rees-Roberts, [2]H Whitworth, [2]O Min Kon, [9]P Haldar, [5]H Kunst, [3]S Anderson, [1]A Hayward, [3]JM Watson, [10]H Milburn, [2]A Lalvani. *[1]University College London, London, UK; [2]Imperial College, London, UK; [3]Public Health England, London, UK; [4]University of Birmingham, Birmingham, UK; [5]Queen Mary University of London, London, UK; [6]Homerton University Hospital, London, UK; [7]Ealing Hospital, London, UK; [8]West Middlesex Hospital, London, UK; [9]University of Leicester, Leicester, UK; [10]Guys and St Thomas' Hospital, London, UK*

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Background Tackling tuberculosis (TB) requires testing and treatment of high-risk groups for latent tuberculosis infection. We estimated the predictive values of the tuberculin skin test (TST) and interferon gamma release assays (IGRAs) for development of active TB in migrants and contacts of active TB patients in the UK.

Methods Participants were prospectively recruited in clinics and the community and followed for a median of 2.9 years. We administered IGRAs (Quantiferon Gold In-Tube [QFT-GIT] and T-SPOT.*TB*) and TST (with 3 thresholds: 5 mm (TST^5), 10 mm (TST^{10}) and TST^{15} (5 mm in BCG-naïve, 15 mm in vaccinated). Potential incident TB cases were identified by telephone interview and national TB databases and confirmed by medical note review.

Results Ninety-seven (1.0%) of 9610 participants developed active TB (77 of 6386 who had Results for T-SPOT.*TB*, QFT-GIT and TST). All tests had very low incidence in test negatives (1.2–1.6 per 1000 per year). Incidence rates in test positives were highest for TSpot.*TB* (13.2 95% CI: (9.9–17.4)), TST^{15} (11.1 (8.3,14.6)) and QFT.GIT (10.1 (7.4,13.4)); positive test Results for these tests were significantly more predictive of progression than TST^{10} and TST^5, TSpot.*TB* was also higher than QFT.GIT. TST^5 predicted more at high risk (55%) than TST^{10} (45%), TSpot.*TB* (33%), TST^{15} (38%) and QFT.GIT (31%).

Conclusions IGRA-based or TST^{15} strategies are most suited for population screening in low-risk populations. Although TST^5 and TST^{10} detect more TB cases this is at the cost of more individuals being classified at high risk with lower positive predictive values.

A troublesome cough: from diagnosis to treatment

S32 COUGH SUPPRESSION TEST: A NOVEL OBJECTIVE TEST FOR CHRONIC COUGH

[1]PSP Cho, [2]H Fletcher, [2]RD Turner, [1,2]SS Birring. *[1]Division of Asthma, Allergy and Lung Biology, King's College London, London, UK; [2]King's College Hospital NHS Foundation Trust, London, UK*

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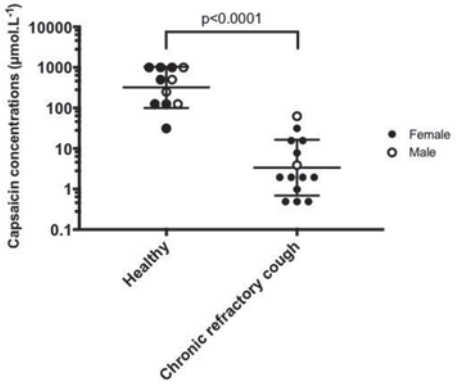
Introduction A recent functional MRI study has shown that patients with chronic refractory cough (CRC) have reduced activity in the areas of the brain associated with cough suppression. Cough challenge tests focus only on provoking cough and have limited clinical application due to the wide overlap between healthy subjects and patients with cough. We investigated whether patients with CRC could suppress cough in a cough challenge test.

Methods We recruited 13 chronic refractory cough patients and 11 healthy controls. Participants underwent an incremental capsaicin challenge test (0.49 to 1000 micromol.L^{-1}) and were instructed "please do not cough during the test". The concentrations of capsaicin during the cough suppression (CS) protocol required to elicit 1 or more cough (CS1), 2 or more coughs (CS2), and 5 or more coughs (CS5) were documented. Patients with CRC also completed cough-severity and urge-to-cough visual analogue scales (VAS; 0–100 mm), and quality of life, Leicester Cough Questionnaire (LCQ; range 3–21).

Results Patients with CRC and controls had a mean (SD) age 57 (8) and 51 (7) years and 11 (85%) and 7 (64%) were female, respectively. CRC patients self-reported symptom and health status were; mean (SD) cough severity VAS 58 (31), urge-to-cough VAS 63 (30), and LCQ score 12.1 (4.4). Patients with CRC were less able to suppress cough compared to healthy controls; geometric mean (SD) CS1: 2.30 (3.56) *vs* 62.46 (5.62), CS2: 2.55 (3.71) *vs* 70.86 (5.91) and CS5: 3.37 (4.84) *vs* 321.70 (3.23) micromol.L^{-1} respectively, all $p<0.0001$. The mean difference (95% CI) in CS5 between CRC and controls was 6.6 (4.9, 8.3) doubling doses. CS5 was better than CS1 and CS2 at discriminating CRC patients from controls (figure 1). There was no significant association between CS5 and cough severity VAS (correlation coefficient,



Abstract S32 Figure 1 Cough suppression test. Capsaicin concentration (geometric mean, SD) that provoked 5 or more coughs (CS5) during voluntary suppression of cough.