Abstract S5 Table 1 Yields for latent TB infection (as defined by a positive QuantiFERON assay) for different age-groups and at different screening thresholds. Those in bold represent current NICE guidance (note: NICE also recommends screening those aged 16–35 from Sub-Saharan countries which is not shown on this table for clarity)

Age group and TB incidence screening threshold (per 100000)	Number tested	Number positive	Yield at incidence level, that is proportion of those tested giving a positive result (%)	% of all LTBI identified if threshold set at this level
<16 years				
Screen all	85	5	5.9	100
Screen ≥ 40	77	5	6.5	100
Screen ≥ 100	76	4	5.3	80
Screen ≥ 200	31	3	9.7	60
Screen ≥ 300	11	2	18.2	40
Screen ≥ 400	6	2	33.3	40
Screen ≥ 500	6	2	33.3	40
16–35 years				
Screen all	678	142	20.9	100
Screen ≥ 40	666	142	21.3	100
Screen ≥ 100	597	136	22.8	95.8
Screen ≥ 200	314	69	21.9	48.6
Screen ≥ 300	106	30	28.3	21.1
Screen ≥ 400	41	8	19.5	5.6
Screen ≥ 500	34	7	20.6	4.9
Over 35 years				
Screen all	147	52	35.4	100
Screen ≥ 40	145	52	35.9	100
Screen ≥ 100	113	44	38.9	84.6
Screen ≥ 200	81	33	40.7	63.5
Screen ≥ 300	25	14	56.0	26.9
Screen ≥ 400	10	7	70.0	13.5
Screen ≥ 500	10	7	70.0	13.5

Conclusions Immigrants have a high prevalence of LTBI but current NICE guidance detects only 38.2% of new entrants with LTBI. Given the high rates of reactivation of LTBI in new entrants, our findings suggest that consideration should be given to reducing the screening threshold to include those from the Indian Subcontinent (incidence 170/100 000) which would result in 67.8% of all LTBI cases being identified.

S6

SENSITIVITY AND SPECIFICITY OF MOBILE DIGITAL CHEST RADIOGRAPHY FOR THE DIAGNOSIS OF ACTIVE PULMONARY TUBERCULOSIS. A COHORT STUDY IN HIGH RISK GROUPS IN LONDON

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Background Radiographic screening for pulmonary tuberculosis is used in high risk groups in many countries. There are no published reports of the sensitivity and specificity of this technique in an operational setting with high screening throughput. A Department of Health screening programme has used mobile digital chest radiography to identify pulmonary tuberculosis amongst homeless people, problem drug users and prisoners in London since April 2005. We aimed to use data from this programme and from national tuberculosis surveillance to establish the sensitivity and specificity of mobile digital X-ray screening for the identification of pulmonary tuberculosis.

Methods Data collected on those screened for the period March 2005 to March 2010 were collated. Abnormal radiographs were classified

as: 1) suspected active tuberculosis; 2) signs of old inactive tuberculosis; 3) other suspicious findings that warrant further investigation (eg, possible cancer); 4) abnormal but no further investigation required; 5) normal. Demographic data from those screened were matched to the national tuberculosis surveillance database using probabilistic algorithms. Duplicates within the screening database (ie, persons having been screened more than once) were removed using the same algorithms. To calculate sensitivity and specificity all those who were referred with suspected active tuberculosis were classified as 'screen positive' with all others classified as 'screen negative'. The gold standard comparator was a notification of pulmonary tuberculosis within the four months after screening. Non-pulmonary cases of tuberculosis were also excluded.

Results 39 225 individuals were screened during the study period, 75% were male and the median age was 36 (IQR 27–45). 430 of those screened were referred with suspected active tuberculosis for further investigation. Matching of the screening data to surveillance data identified 44 screened individuals who were notified with pulmonary tuberculosis within 4 months of screening, 36 of these were screen positive. Based on these results, sensitivity was 82% (95% CI 67.3 to 91.8%) and specificity 99.3% (95% CI 99.1 to 99.3%) (see Abstract S6 Table 1).

Abstract S6 Table 1 Screened cases with suspected active pulmonary TB compared to gold standard (notification of pulmonary tuberculosis within 4 months of screening)

		Gold standard		
		Positive	Negative	Total
Screen result	Positive	36	312	348
	Negative	8	38869	38877
	Total	44	39181	39225

Conclusion High throughput mobile digital radiographic screening for pulmonary tuberculosis has high sensitivity and specificity in high risk groups and should be considered as a key tool for active case finding in these populations.

Economics and the burden of respiratory disease

S7 ANNUAL TRENDS IN ASTHMA EMERGENCY ATTENDANCE, HOSPITAL ADMISSION AND READMISSION

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Introduction and Objectives Recent government initiatives rooting care of chronic conditions in primary care settings with particular emphasis on reducing hospital use require on-going collection of high-quality data. However, in most Trusts this data are not systematically reported. Data around readmissions have recently become a priority issue with proposals to penalise secondary care Trusts with high readmission rates.

Methods Asthma emergency attendances and reattendances to our Trust from 2003/4 to 2009/10 and hospital admissions and readmissions from 2001/2 to 2009/10 were obtained from Symphony and Patient Administration System (PAS). For hospital admissions discharge coding was used to identify cases.

Results 8155 emergency attendances were recorded over the 7 year period between 2003/4 and 2009/10, of which 4691 were adult (≥ 18 years) and 3464 children (< 18 years). During this time, 2927 patients out of 4479 (65%) attended just once. Emergency