Drivers determining tuberculosis disease screening yield in four European screening programmes: a comparative analysis

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Factors associated with TB screening yield included increasing age, migrant typology, TB incidence in country of origin, TB case contact and period of screening. The TB yield among asylum seekers was higher than for other migrant categories. https://bit.ly/3VMLwFp


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Abstract

**Background** The World Health Organization End TB Strategy emphasises screening for early diagnosis of tuberculosis (TB) in high-risk groups, including migrants. We analysed key drivers of TB yield differences in four large migrant TB screening programmes to inform TB control planning and feasibility of a European approach.

**Methods** We pooled individual TB screening episode data from Italy, the Netherlands, Sweden and the UK, and analysed predictors and interactions for TB case yield using multivariable logistic regression models.

**Results** Between 2005 and 2018 in 2,302,260 screening episodes among 2,107,016 migrants to four countries, the programmes identified 1,658 TB cases (yield 72.0 (95% CI 68.6–75.6) per 100,000). In logistic regression analysis, we found associations between TB screening yield and age (≥55 years: OR 2.91 (95% CI 2.24–3.78)), being an asylum seeker (OR 3.19 (95% CI 1.03–9.83)) or on a settlement visa (OR 1.78 (95% CI 1.57–2.01)), close TB contact (OR 12.25 (95% CI 11.73–12.79)) and higher TB incidence in the country of origin. We demonstrated interactions between migrant typology and age, as well as country of origin. For asylum seekers, the elevated TB risk remained similar above country of origin incidence thresholds of 100 per 100,000.

**Conclusions** Key determinants of TB yield included close contact, increasing age, incidence in country of origin and specific migrant groups, including asylum seekers and refugees. For most migrants such as UK students and workers, TB yield significantly increased with levels of incidence in the country of origin. The high, country of origin-independent TB risk in asylum seekers above a 100 per 100,000 threshold could reflect higher transmission and re-activation risk of migration routes, with implications for selecting populations for TB screening.