



Active case-finding of tuberculosis in general populations and at-risk groups: a systematic review and meta-analysis

Anders Solitander Bohlbro ^{1,2,3}, Victor Schwartz Hvingelby³, Frauke Rudolf^{1,2}, Christian Wejse^{1,2,3} and Cecilie Blenstrup Patsche^{1,3}

¹Bandim Health Project, INDEPTH Network, Bissau, Guinea-Bissau. ²Dept of Infectious Diseases, Aarhus University Hospital, Aarhus, Denmark. ³Center for Global Health (GloHAU), Dept of Public Health, Aarhus University, Aarhus, Denmark.

Corresponding author: Anders Solitander Bohlbro (asb@clin.au.dk)



Shareable abstract (@ERSpublications)

Active case-finding of tuberculosis can produce substantial yields in general populations and at-risk groups and may outperform current case-finding practices. This provides evidence for extending active case-finding beyond current WHO recommendations. <http://bit.ly/3IOHVER>

Cite this article as: Bohlbro AS, Hvingelby VS, Rudolf F, *et al.* Active case-finding of tuberculosis in general populations and at-risk groups: a systematic review and meta-analysis. *Eur Respir J* 2021; 58: 2100090 [DOI: 10.1183/13993003.00090-2021].

This single-page version can be shared freely online.

Copyright ©The authors 2021. For reproduction rights and permissions contact permissions@ersnet.org

This article has supplementary material available from erj.ersjournals.com

Received: 11 Jan 2021
Accepted: 14 March 2021

Abstract

Background The World Health Organization (WHO) recommends active case-finding (ACF) of tuberculosis (TB) in certain high-risk groups; however, more evidence is needed to elucidate the scope of ACF beyond the current recommendations. In this study we aimed to systematically review yields (the prevalence of active TB) of studies on ACF in general populations and at-risk groups.

Methods A literature search in PubMed, Embase and the Cochrane Central Library (CENTRAL) was performed for studies concluded after 31 December 1999 and published before 1 September 2020. Screening yields were estimated and yield/prevalence ratios (ratio between yield of study and WHO estimated prevalence of TB) were calculated to assess which groups might especially benefit from ACF. Finally, risk of bias was assessed and heterogeneity was investigated using meta-regression and sensitivity analyses.

Results We included 197 studies, with a total of 12 372 530 screened and 53 158 cases found. Yields were high among drug users, close contacts, the poor and marginalised, people living with HIV, and prison inmates across incidence strata, and estimated yield/prevalence ratios in screenings of general populations tended to be >1 with an overall ratio of 1.4 and ranging between 1.0 and 1.5. Sensitivity analyses suggested that inclusion of studies at high risk of bias contributed to underestimation of yields.

Conclusion Despite many studies using insensitive screening methods, these results suggest that more at-risk groups should be considered for inclusion in future screening recommendations and that screening of general populations may outperform current case-finding practices, providing evidence for extending ACF beyond the current recommendations.