

15TL-8718 Kranzer

In the recent *Lancet* Series on tuberculosis elimination, Courtney Yuen and colleagues (Dec 5, pp 2334–43)¹ proffer a strong argument for active case finding as a means to reduce *Mycobacterium tuberculosis* transmission. However, the evidence in support of such an argument is scarce.²

No randomised controlled study has yet convincingly shown a population-level effect of active case finding on *M tuberculosis* transmission. The two clinical trials^{3,4} referred to by Yuen and colleagues fit into the category of contact investigation. Results of these studies are inconclusive at best. The ZAMSTAR³ study compared enhanced case finding, a household intervention, both, or neither. Enhanced case finding included community mobilisation, symptom screening during mobile outreach activities, and easy access to sputum collection. The household intervention, aimed at households of patients with tuberculosis, included three visits for education and screening for tuberculosis and HIV, and latent tuberculosis treatment. Whereas the household intervention showed non-significant effects on both adult tuberculosis prevalence and incidence of infection in school children, enhanced case finding had no effect on either endpoint. In Brazil,⁴ intervention communities received a contact investigation package, resulting in reduced tuberculosis notifications. However, the effect attributable to the active case finding component of these two interventions is impossible to assess.

The cited multisite assessment of TB REACH projects⁵ included a summary assessment of notification rates across diverse interventions to improve tuberculosis detection, including improved diagnostics, demand

generation, private sector engagement, and various active case finding approaches. Most projects included a combination of interventions, making assessment of the contribution of active case finding difficult.

With little evidence of a population-level effect on transmission, the primary objective of active case finding should be to improve health outcomes among screened individuals. The principles of screening include a careful balancing of the benefits and risks, including false positive diagnosis.⁶ As a result, WHO strongly recommends systematic screening in three risk groups: tuberculosis contacts, people with HIV/AIDS, and people exposed to silica dust.⁶ In most settings, the size of these risk groups is small, and such targeted screening would therefore contribute only marginally to overall tuberculosis detection.

The epidemiology and health-system context needs to guide prioritisation of other risk groups to be screened systematically. Mass screening should be avoided, and active case finding in risk groups with moderately increased tuberculosis risk should be done with great caution, while minimising risk of false positive diagnosis. Any implementation of a screening strategy needs to be paired with assessment to ensure cost-effectiveness and minimise risk of harm.

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- 1 Yuen CM, Amanullah F, Dharmadhikari A, et al. Turning off the tap: stopping tuberculosis transmission through active case-finding and prompt effective treatment. *Lancet* 2015; **386**: 2334–43.
- 2 Kranzer K, Afnan-Holmes H, Tomlin K, et al. The benefits to communities and individuals of screening for active tuberculosis disease: a systematic review. *Int J Tuberc Lung Dis* 2013; **17**: 432–46.
- 3 Ayles H, Muyoyeta M, Du Toit E, et al. Effect of household and community interventions on the burden of tuberculosis in southern Africa: the ZAMSTAR community-randomised trial. *Lancet* 2013; **382**: 1183–94.
- 4 Cavalcante SC, Durovni B, Barnes GL, et al. Community-randomized trial of enhanced DOTS for tuberculosis control in Rio de Janeiro, Brazil. *Int J Tuberc Lung Dis* 2010; **14**: 203–09.
- 5 Creswell J, Sahu S, Blok L, Bakker MI, Stevens R, Ditiu L. A multi-site evaluation of innovative approaches to increase tuberculosis case notification: summary results. *PLoS One* 2014; **9**: e94465.
- 6 WHO. Systematic screening for active tuberculosis. Principles and recommendations. Geneva: World Health Organisation, 2013. <http://apps.who.int/iris/>

