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Transcriptional biomarkers for predicting development of tuberculosis: progress and clinical considerations

Hanif Esmail [1,2,3], Frank Cobelens[4] and Delia Goletti[5]

Affiliations: [1]Medical Research Council Clinical Trials Unit at University College London, London, UK. [2]Institute for Global Health, University College London, London, UK. [3]Wellcome Centre for Infectious Diseases Research in Africa, Institute of Infectious Diseases and Molecular Medicine, University of Cape Town, Cape Town, South Africa. [4]Dept of Global Health and Amsterdam Institute for Global Health and Development, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands. [5]Translational Research Unit, Dept of Epidemiology and Preclinical Research, "L. Spallanzani" National Institute for Infectious Diseases (INMI), IRCCS, Rome, Italy.

Correspondence: Delia Goletti, "L. Spallanzani" National Institute for Infectious Diseases, Translational Research Unit, Via Donna Olimpia 195, Rome 00152, Italy. E-mail: delia.goletti@inmi.it

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The new experimental tools to detect incipient tuberculosis (TB) in those with latent TB infection can be clinically relevant for achieving global TB control. In this manuscript, how such tests fit may into future TB management is discussed. http://bit.ly/35WiozD

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Achieving the ambitious targets for global tuberculosis (TB) control, will require an increased emphasis on preventing development of active disease in those with latent TB infection (LTBI) by preventative treatment or vaccination [1]. New shortened regimens of 1–3 months duration potentially allow much wider and more effective use of preventive therapy [2, 3]. A significant barrier is the limited ability to reliably identify those at high risk of disease progression, leading to high numbers needed to treat (NNT) to prevent a case of TB [4]. Hence, there is an interest in developing new diagnostic tests that better predict TB disease to allow more targeted preventive treatment and lower NNT [5]. These are often referred to as tests for incipient TB, stemming from the notion that TB prediction with low NNT most likely reflects detection of an early inflammatory response to multiplying *Mycobacterium tuberculosis* [6]. There are a number of promising biomarkers in development and undergoing evaluation as incipient TB tests [7]. Although it will be a few years before validated and approved diagnostics are ready for use in clinic, there is the potential for such tests to transform the TB management paradigm and provide a fresh approach to TB control. However, how such tests fit into future TB management and control algorithms is not fully defined and there remain limitations in their potential utility as well as a number of research gaps in this area.