Chest radiography for tuberculosis screening is back on the agenda

TO SOME, the title may seem overstated and to others perhaps ironic, from a total lung health perspective. In 1974, following similar policy changes in many countries, the World Health Organization (WHO) Committee on Tuberculosis concluded that case finding by mass screening using chest radiography should be abandoned. The WHO Committee placed a strong emphasis on pursuing a diagnosis among symptomatic patients by sputum smear microscopy because chest radiography could not be used independently for diagnosis and was too expensive. Even after such recommendations, and although it was often criticized over the decades for its insufficient specificity and sensitivity, the use of chest radiography was maintained in clinical practice, including in many low-resource country settings, as part of the diagnostic algorithm.

Chest radiography screening has been used for prevalence surveys, and more recently it has been revived using targeted approaches among high-risk populations. Its importance is being recognized again, including in persons infected with the human immunodeficiency virus and in children with tuberculosis. As early as 1992, the WHO’s Essential Technologies group made recommendations that stressed the role of and access to chest radiographs (and ultrasound) at the primary referral level. With the advent of digital technology, the operational and expense barriers are declining for radiography as they are with mycobacterial culture, including in low-resource countries. In 2006, the International Standards for Tuberculosis Care carefully defined the role of chest radiography in a clinical context, and the International Union Against Tuberculosis and Lung Disease has also been active in this area. The use of mobile digital technology, dedicated expertise, and emerging techniques for computer-aided reading may help address the challenges with observer error and experience.

In this issue of the Journal, Story and colleagues measured the accuracy of digital chest radiography (using state-of-the-art, low-dose equipment) on a mobile unit for screening high-risk urban populations in a low-incidence, high-resource setting. The excellent performance of the mobile unit radiography in this study is probably derived from the targeted screening of a high-risk population, a discriminatory categorization of radiographic interpretations, and readings done by one of two well-trained radiographers (what in other contexts might be termed ‘radiologic techni-

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References