

Cost-effectiveness of a new strategy to detect pulmonary tuberculosis in household contacts in Myanmar

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Abstract

Guidelines regarding household contact tracing for pulmonary tuberculosis (TB) in different countries vary reflecting different case detection methods. This study was to compare costs spent for detecting one TB case among household contacts between different contact tracing strategies in Mandalay City, Myanmar. Case detection and cost estimation for diagnostic procedures using the two different strategies were calculated. A modified conventional model included screening for TB signs and symptoms, sputum examination for those with positive signs and symptoms and chest X-ray (CXR) for those with negative sputum results. An interventional model included CXR, sputum examination if abnormal CXR and Xpert MTB/RIF assay for those with negative sputum results. Estimated costs within each model were stratified by age <15 years and age ≥ 15 years. The additional cost per TB case detected for the interventional model was US\$ 35.41 compared to the modified conventional model. The probability that the interventional model was cost-effective using a threshold of US\$ 100 per case detected was 81% (83% for those aged ≥ 15 years and 65% for those aged <15 years). The interventional model was more cost-effective for detecting one more pulmonary TB case in household contacts compared to the modified conventional model.