

# Community household child contact investigation for tuberculosis

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## Background

Globally, the uptake of tuberculosis-preventive treatment (TPT) among children with household tuberculosis contact remains low, partly due to the necessity of bringing children to health facilities for investigations. This study aimed to evaluate the effect on TPT initiation and completion of community-based approaches to tuberculosis contact investigations in Cameroon and Uganda.

## Methods

We did a parallel, cluster-randomised, controlled trial across 20 clusters (consisting of 25 district hospitals and primary health centres) in Cameroon and Uganda, which were randomised (1:1) to receive a community-based approach (intervention group) or standard-of-care facility-based approach to contact screening and management (control group). The community-based approach consisted of symptom-based tuberculosis screening of all household contacts by community health workers at the household, with referral of symptomatic contacts to local facilities for investigations. Initiation of TPT (3-month course of rifampicin-isoniazid) was done by a nurse in the household, and home visits for TPT follow-up were done by community health workers. Index patients were people aged 15 years or older with bacteriologically confirmed, drug-susceptible, pulmonary tuberculosis diagnosed less than 1 month before inclusion and who declared at least one child or young adolescent (aged 0–14 years) household contact. The primary endpoint was the proportion of declared child contacts in the TPT target group (those aged <5 years irrespective of HIV status, and children aged 5–14 years living with HIV) who commenced and completed TPT, assessed in the modified intention-to-treat population.

## Findings

The study included nine clusters in the intervention group (after excluding one cluster that did not enrol any index patients for >2 months) and ten in the control group. Between Oct 14, 2019 and Jan 13, 2022, 2894 child contacts were declared by 899 index patients with bacteriologically confirmed tuberculosis. Among all child contacts declared, 1548 (81.9%) of 1889 in the intervention group and 475 (47.3%) of 1005 in the control group were screened for tuberculosis. 1400 (48.4%) child contacts were considered to be in the TPT target group: 941 (49.8%) of 1889 in the intervention group and 459 (45.7%) of 1005 in the control group. In the TPT target group, TPT was commenced and completed in 752 (79.9%) of 941 child contacts in the intervention group and 283 (61.7%) of 459 in the control group (odds ratio 3.06 [95% CI 1.24–7.53]).

Community household contact tracing for tuberculosis is effective, feasible, cost-effective, and acceptable. It has the potential to timely identify contacts with tuberculosis and provide preventive treatment to children.

