

**Background** Chhattisgarh, one of the poorest states in India, has a sub-standard TB detection rate. According to the Revised National Tuberculosis Control Programme (RNTCP), the state was able to detect around 55% of expected smear-positive cases in 2014. A main bottleneck explaining this low detection rate was the incapacity to bring suspect cases to sputum examination, despite adequate number of Designated Microscopy Centres (DMCs). Detection rates for smear-negative and re-treatment cases were still poorer at 44% and 30% of expected cases, indicating an additional gap in terms of implementing clinical protocols. The hypothesis was formulated that Chhattisgarh's established network of 70,000 community health workers (CHWs, known as *Mitanins*) offer an opportunity to improve TB detection.

**Methods** Chhattisgarh's *Mitanins* were trained to screen the population for signs of TB and carried out door-to-door screening for suspected cases. Supervisors of CHWs maintained lists of the suspected cases identified, who were referred to the nearest DMC for sputum examination. In addition, child contacts were traced from confirmed TB cases and referred to block/district hospitals for confirmation. Data were collected monthly from field functionaries of the *Mitanin* programme and triangulated with RNTCP data. Group discussions with the *Mitanins* and their facilitators were conducted to document their experience.

**Findings** 96% of the *Mitanins* participated in the active screening campaign, covering around 71% of the 27 million population of the state. Of the suspected cases, 62% were successfully referred to 360 DMCs across the state. The quarterly ratio of TB suspects examined per 100,000 population went up from 102 in the 3rd trimester of 2013 to 134 in the 1st trimester of 2014, and to 170 in the 1st trimester of 2015. An additional screening campaign was rolled out with the *Mitanins* in September 2015. Sputum examination ratios were sustained for 2nd and 3rd trimester of 2015, resulting in an average increase of 46% from 2013 levels and translating into 55,000 more patients getting examined each year.

Between March and June 2015, the *Mitanins* referred 6,974 contact children for confirmation to 106 government health facilities at block or above levels. Priority was given to malnourished child contacts. Village Health Sanitation and Nutrition Committees (VHSNCs) facilitated transport for 42% of these referrals, using untied funds from the National Health Mission. However, in 32% of the referrals the contact children were not examined in the government referral facilities but instead again referred to paediatricians at higher level. Most of the re-referrals could not access a paediatrician; those who did reach were not examined. After discussions with facilitators of the CHW programme, around one third of the initial referral facilities agreed to examine the children. The most commonly prescribed diagnostic in public referral facilities was a Mantoux test, followed by X-ray. Majority of children prescribed a Mantoux test were referred to a private lab. Of the 6,974 contact children, 418 cases were confirmed as TB, for which treatment was started.

As experienced by the *Mitanins*, mobilising child contact referrals was the most difficult task. The support for transportation from the VHSNCs was useful in this regard. However, for the referrals to translate into detection, adequate response from primary and secondary health facilities was needed also, and often lacking. Where the health facilities refused to take up child contacts for confirmatory examination, this resulted in severe frustration and demoralisation for both the community health worker and the child's family. In order to minimize frustration, *Mitanins* were then advised to go to centres known to

OP-21 **ROLE OF COMMUNITY HEALTH WORKERS IN IMPROVING TB DETECTION ON SCALE: A CASE STUDY FROM THE MITANIN PROGRAMME IN CHHATTISGARH, INDIA**

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be responsive. The *Mitanins* who had a successful referral experience expressed satisfaction for having been able to save a child's life. Overall, despite frequent denial of services and other inadequacies, a large number of government doctors and health facilities got nudged to respond to the influx of child contacts.

**Conclusion and recommendations** Our study shows that community health workers can play an effective role in active screening and referrals for identification of TB in states having low detection rates of TB. In the case of Chhattisgarh, bi-annual door-to-door screening campaigns by *Mitanin* CHWs appear feasible and appropriate. Contact tracing still needs improvement and is key to adequate TB control. The sub-optimal health systems response to paediatric TB can be boosted through training of health and RNTCP staff, and sensitisation – to which the community health workers can substantially contribute. The National Health Mission already went a long way by introducing large numbers of ASHA CHWs and by setting up community-based supportive structures in form of VHSNCs. Improved understanding and use of the potential of CHWs and community-based structures in referrals for TB can offer significant gains for TB control in India.

*No competing interest.*