Background

- Detection of TB among children remains a challenge with many cases undiagnosed. Childhood TB is closely associated with poverty, crowding, and malnutrition.
- 80% of Nairobi residents in Kenya live in the informal settlement and a significant proportion of children attend informal schools which are well known to fuel infectious disease transmission.
- An assessment was conducted to determine the effect of ACF in diagnosing TB among children attending these schools.

Methods

- A cross-sectional assessment was conducted from 9-16 March 2016 among children attending 174 informal schools in the informal settlements in Nairobi.
- All children aged <14 years were screened for symptoms of TB using the Simplified Paediatric TB Diagnosis tool recommended by the Kenya Ministry of Health.

Simplified Clinical TB Diagnosis

Presence of 2 more of the following symptoms:
- Cough >2 weeks
- Weight loss or poor weight gain
- Persistent fever and/or night sweats >2 weeks
- Fatigue, reduced playfulness, less active

PLUS

Presence of 2 more of the following:
- Positive contact history
- Respiratory signs
- CXR suggestive of PTB (where available)
- Positive Mantoux test (where available)

Then PTB is likely, and treatment is justified.

Where possible, sputum samples from those with presumptive TB were sent for GeneXpert testing. Mantoux test and chest x-rays were unavailable.

Children were assessed for malnutrition using MUAC. Data was analyzed to determine the prevalence of TB following this approach to screening in high-risk populations.

Results

- A total of 11,148 children were screened and the majority, 49%, were <5 years of age while 41% were 5-9 years of age. On assessment, 4% of the children had malnutrition.
- Overall 496 (4.4%) of these children were found to have TB using the national diagnostic tool. Of the 193 (39%) children who produced sputum for GeneXpert, none were positive for MTB.

- Malnutrition was found in 92% of children with TB compared to 19% among those without.

Conclusion

- Active TB case finding diagnosis among high-risk children is an effective tool in improving TB diagnosis among this vulnerable group.
- Sputum production for GeneXpert testing among children remains challenging calling for the need for scale-up of other equally effective tests in addition to training health care workers on more aggressive interventions including sputum induction to improve TB diagnosis in children.
- For these children GeneXpert did not pick any MTB as compared to the simplified Pediatrics TB diagnosis tool hence more research need to be done on specificity and sensitivity of our simplified pediatric diagnosis versus geneXpert and the quality of specimen from children.