

STUDY SUMMARY

The global TB burden is gendered: compared to women, men accounted for over two-thirds of TB cases in 2020. To end TB, gender-responsive TB diagnosis and care pathways are urgently needed to address the peculiar needs of men, women and children. Community-based active case finding interventions that detect men with undiagnosed and untreated TB have the potential to reduce TB transmission and burden in men, women and children.



BACKGROUND TO THE STUDY

Tuberculosis (TB) kills over 1 million people globally each year. The Early case detection is a key component of the End TB 2035 strategy. TB case detection, i.e. investigating individuals for evidence of TB disease and confirmation of presence of TB-causing organisms, is the entry point into TB treatment and care. People with undetected and untreated TB, often predominately men, are a source of continued transmission to other people within their households and communities. Men are likely to have longer delays prior to seeking diagnosis and care for TB symptoms, and to under-participate in community-based screening interventions. Moreover, up to 50% of people, mostly men, found with TB during community surveys do not report having TB symptoms.

Passive case finding strategies that rely on waiting for people to recognise that they are ill and seek testing at health facilities risk missing many people with TB. Active case finding (ACF) strategies, i.e. aimed at detecting TB cases in people who may not seek TB care due to lack of symptoms or other reasons, are needed to increase TB case detection and to achieve End 2035 targets.

STUDY SITES

This study will use data from Malawi and Kenya, both of which are classified by WHO as high TB burden countries. In both Malawi and Kenya, men were under-represented in the most recent nationwide TB prevalence surveys compared to women, and have longer delays prior to seeking care and diagnosis for TB symptoms.

STUDY SITES: MALAWI AND KENYA



There is therefore an urgent need to increase the uptake of community-based TB ACF interventions that target men with undetected TB to further reduce TB burden in men, women and children in these countries.

AIM

TO INVESTIGATE OPTIMAL STRATEGIES THAT INCREASE UPTAKE OF COMMUNITY-BASED TB ACF INTERVENTIONS AMONG MEN, AND ASSOCIATED POTENTIAL IMPACT ON TB TRANSMISSION, MORBIDITY AND MORTALITY AMONG MEN, WOMEN, AND CHILDREN. IDENTIFYING AND TREATING UNDETECTED TB AMONG MEN SHOULD REDUCE MORBIDITY AND MORTALITY AMONG MEN, AND FURTHER REDUCE TRANSMISSION TOWARDS OTHER MEN, WOMEN AND CHILDREN.

STUDY OBJECTIVES

See figure 1 below

- 1 To estimate gender-specific estimates of prevalence of TB infection among adults in Blantyre, Malawi
- 2 To evaluate the potential population-level impact of using computer-aided detection on chest X-rays (CAD) for community-based TB ACF
- 3 To evaluate the potential impact of gender-responsive community-based ACF that target men, including e.g. CAD, on TB case notification, morbidity, mortality and transmission among men, women, and children

METHODS

Epidemiological, mathematical and statistical modelling approaches will be used to estimate the true burden of undiagnosed TB among men, and to evaluate the potential impact of increasing uptake of community-based TB ACF interventions among men. A compartmental, deterministic transmission modelling framework will be used to understand the population-level impact of gender-responsive, ACF interventions that target men, on the rates of population-level transitions through various TB disease states. The effect of ACF interventions that preferentially target men on TB incidence, prevalence, case notifications and mortality will be evaluated.

Figure 1: Schematic showing how study objectives are linked to each other and contribute to the overall objective of evaluating gender-responsive TB active case finding interventions (ACF) that target men, and the associated potential impact on TB burden and transmission among men, women, and children

OBJECTIVE 1: TB INFECTION PREVALENCE SURVEY AMONG ADULTS IN URBAN BLANTYRE, MALAWI

Output: Gender-specific estimates of TB infection among adults

OBJECTIVE 2: MODELLING POTENTIAL POPULATION-LEVEL IMPACT OF COMPUTER-AIDED DETECTION ON CHEST X-RAYS (CAD) FOR TB ACF IN KENYA

Output: Gender-specific estimates of population-level impact of CAD ACF

OBJECTIVE 3: MODELLING THE POTENTIAL POPULATION-LEVEL IMPACT OF GENDER-RESPONSIVE ACF INTERVENTIONS THAT TARGET MEN IN MALAWI AND KENYA

Scientific literature, programmatic data, and stakeholder engagement

POTENTIAL IMPACT

FINDINGS FROM THIS STUDY HAVE THE POTENTIAL TO:

- 1 Address the gendered TB burden, gender-responsive approaches that increase uptake of preferentially targeted ACF interventions, and linkage to treatment and care, among men
- 2 Highlight the potential reduction in population-level TB transmission, morbidity and mortality among men, women and children that could be achieved by increasing uptake of community-based ACF interventions among men
- 3 Interventions shown to be effective, including the nature of ACF, could be prioritised for field research or pilot implementation.

More information on the study is detailed in the protocol. For further information, please contact:

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