

New findings on barriers and support in global fight against tuberculosis

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Nine out of 10 cases of tuberculosis appear in 30 identified low and middle-income countries, each of which has a national tuberculosis program. The managers of these programs agree that it is important to screen for tuberculosis outside of health facilities. However, each

screening program must have its own well-considered, sustainable strategy and sufficient resources for it to be meaningful—which is not always the case today. This is one conclusion drawn by Olivia Biermann's thesis.

At a global level, tuberculosis (TB) is still one of the deadliest infection diseases, affecting an estimated 10 million people every year, primarily people living in poverty in low and [middle-income countries](#). Roughly 90% of cases occur in 30 identified countries, including India, Vietnam and South Africa. However, nearly a third of those infected—2.9 million people—receive neither a diagnosis nor treatment.

One way of locating these people, treating them and preventing the spread of the disease is to use an approach known as "active tuberculosis case-finding" (ACF). This involves finding people who are at a particularly high risk of having TB but who have not sought care, such as people with HIV or those living with a person who has TB or in crowded conditions in prisons or slum areas, to offer them screening.

There has been much discussion about the benefits and risks of ACF; the potential benefits lie in early detection and treatment as well as stopping transmission, while feared risks include stigmatization and false positive diagnoses. There are guidelines from the World Health Organization (WHO) stating that ACF should be implemented for certain risk groups, but many recommendations are conditional and up for interpretation.

Limited scientific evidence

"There have been more and more studies published in the past decade on the effects of ACF but the evidence base is still scant," says Olivia Biermann, doctoral student at the Department of Global Public Health at Karolinska Institutet. "It's also difficult to draw any general conclusions on ACF as it includes such a wide range of approaches. Both screening

and diagnosis can be done in different ways, on different risk groups and in places with different epidemiological contexts and varying degrees of knowledge or stigma related to the disease."

In her thesis, Biermann examines how global experts, national TB program managers, health workers and patients view ACF and what they believe facilitates and hinders ACF policy development and implementation. The thesis includes a review of published studies, a survey, interviews and two field studies in Vietnam and Nepal.

In one study, TB program managers are interviewed in the 30 countries that account for the majority of cases. There is strong consensus amongst them that ACF is an important tool in combating TB in high-burden countries. Yet, they also say that they lack the human and financial resources to implement ACF. Projects often have to rely on international donor organizations.

Need for balanced consideration

"One conclusion I draw in the thesis is that a balanced consideration of the potential benefits and harms of ACF is needed to make sound decisions and implement ACF in a way that finds people with TB at an early stage of the disease, as there is then a good chance of curing them and preventing further transmission," Biermann says. "What constitutes a good strategy depends on where, how and when the screening is to take place. At the same time, money, personnel and more scientific studies are needed before ACF can be implemented in a meaningful way."

The thesis is part of a larger project called IMPACT TB, which is financed by Horizon 2020, an EU-funded research program. Some of the results of the thesis have been taken up in the WHO's new handbook on TB screening that was published in March. Her supervisors were Knut Lönnroth, professor at the Department of Global Public Health at

Karolinska Institutet; Kerri Viney, WHO team leader and researcher at Karolinska Institutet; and Maxine Caws, researcher at the Birat Nepal Medical Trust and Liverpool School of Tropical Medicine. Her thesis defense is scheduled for 6 May.

More information: Global policy to local implementation: experiences from active tuberculosis case-finding in high-burden countries, [openarchive.ki.se/xmlui/bitstr ... quence=1&isAllowed=y](https://openarchive.ki.se/xmlui/bitstream/handle/11365/44711/1/2021-05-barriers-global-tuberculosis.pdf)

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