Community-based tuberculosis screening – a double-edged sword?

by Olivia Biermann

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Tuberculosis (TB) is a major global health challenge – particularly in low- and middle-income countries. The World Health Organization's (WHO) End TB Strategy and the Sustainable Development Goals aim at ending the global TB epidemic by 2035, which will require intensified activity to increase TB case detection *(1)*. In 2017, there was a 4.1 million gap between estimated incident and notified TB cases globally, reflecting a combination of underreporting of detected TB cases and underdiagnosis – particularly in countries with major financial and geographic barriers to accessing care *(2)*. Many people with TB are diagnosed only after long delays *(3)*, causing much suffering and economic hardship, and sustaining transmission *(4)*.

Community-based TB screening, or ACF, is defined by WHO as "systematic identification of people with suspected active TB, in a predetermined target group, using tests, examinations or other procedures that can be applied rapidly" *(4)*. ACF is mostly provider-initiated. It may target people who do not seek health care because they a) do not have or recognize symptoms, b) do not perceive that they have a health problem requiring medical attention or c) face barriers to accessing care *(4)*.

If not properly targeted and implemented, ACF can be a double-edged sword.

On the one hand, it can benefit patients and the society by strengthening health systems and improving equitable access to healthcare *(5)*. Potential benefits for patients include reduced morbidity, mortality

and economic consequences due to earlier diagnosis, while society can benefit from a reduced transmission and burden of TB, which often affects the most economically productive members of a society. TB screening in high-risk groups has been implemented in many settings, and can significantly improve TB case notification *(6-8)*.

On the other hand, screening can be costly and lead to diversion of scarce resources. It can also cause harm, e.g. by increasing the risk of false positive diagnosis, creating an additional financial burden associated with attending screening and follow-up, or increased stigma and discrimination *(1)*.

Questions remain about *how* to best plan and implement outreach screening through ACF in a given context. The evidence base is weak, e.g. about the benefits of ACF on individual and community levels *(9)*. There are differences in stakeholder's values and preferences concerning the outcomes and possible secondary effects of ACF, e.g. individual health outcome versus transmission/incidence impact; likelihood of public health impact versus risk of harm for individuals; willingness to invest in less cost-effective interventions to achieve long-term impact versus cost containment; vertical "campaign" thinking versus horizontal health systems thinking (including conditions for good "passive case finding"); and case finding as a medical intervention versus prevention through addressing social determinants.

Stakeholder engagement and operational research evidence from the perspectives of the individual, the community/organization and the health system are needed to inform ACF policy implementation at the country level *(1,10)*.

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Interesting websites

- IMPACT TB: a project to find and treat cases of TB in communities in Nepal & Vietnam
- Karolinska Instutet: about Olivia Biermann

About the author

Olivia Biermann is a PhD student at the Department of Public Health Sciences at Karolinska Institutet in Stockholm, Sweden. Prior to starting her PhD in 2017, she was working as a consultant at the WHO Regional Office for Europe. Olivia worked and studied in Ecuador, India, Nicaragua and South Africa, and hold degrees in global health (MSc) from Karolinska Institutet and health communication sciences (BSc) from Bielefeld University. In addition to her academic activities, she is Vice-President of the non-governmental organization Foundation Human Nature, supporting community-based rural health and development projects in Ecuador, Ghana and Nepal.

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