

Mind the gap: TB prevalence higher than recorded cases suggest

In 2021, South Africa released findings of its first national tuberculosis prevalence survey, which was commissioned by the Department of Health. The data was collected from towards the end of 2017 to 2018, just over a year before COVID-19 arrived in South Africa. **Andrea Teagle** talks to **Dr Sizulu Moyo**, the co-principal investigator of the survey, about the importance of the study, the impact of COVID-19 on South Africa's treatment programme and how to close the detection, diagnosis and treatment gaps.

Young people as well as men and elderly people with tuberculosis (TB) are falling beneath the radar of TB detection in the healthcare system, according to South Africa's first national TB prevalence survey. The survey illuminated a large gap between the recorded number of cases and the actual number of cases – which had previously not been quantified.

To ensure that the sample captured a nationally representative prevalence estimate for the country, the research team, led by the HSRC's Dr Sizulu Moyo and Dr Martie van der Walt from the South African Medical Research Council, followed standardised survey methodology recommended by the World Health Organization. Overall, 110 clusters (distinct geographic areas) across the country were selected. Within each cluster, 500 people aged 15 years and older normally living there at the time of the study could choose to participate.

In total, 35 191 people over the age of 15 participated in the study, which included a symptom-screening questionnaire, a digital chest X-ray (CXR), the collection of two samples of sputum and optional testing for HIV.

The estimated prevalence in South Africa was 737 per 100 000 people, with a 95% [confidence interval](#) of 580–890. (The confidence interval, which is usually set at 90% or 95%, indicates how precise an estimate is: the wider the range, the less precise the estimate.) By comparison, the prevalence in Eswatini was 352/100 000 in 2018. The survey found an estimated 390 000 cases in 2018 – about 154 000 more than the notified cases.

Generally, detection of TB relies on people being tested and diagnosed in healthcare facilities. But not everyone with TB or TB symptoms seeks care. "The prevalence-to-notification

ratio clearly shows that not all cases are detected and shows where we are missing cases," says Moyo.

Although the highest number of TB cases occurred in the 35–60 age group, the greatest gap in detection occurred in other age groups. The study revealed a prevalence almost three times greater than that indicated by notified cases in young people aged between 15–24 years and older people over 60 years (prevalence-to-notification ratios of 2.91 and 2.88 respectively). Prevalence was much greater (1.6 times) in men than women, and the number of cases was almost double (1.89 times) the notified cases.

Accounting for the missing cases

A key driver of missing cases is the low percentage of people with TB symptoms who seek care for them. Among the study participants who reported at least one TB symptom, almost two-thirds (66%) had not sought care; among young people in the 15-24 age group this figure was 82%. Men with symptoms are also less likely to visit healthcare facilities, the study showed, with 71% indicating they had not sought care, compared with 63% of women.

Also accounting for missed cases are those that are asymptomatic or sub-clinical: almost 6 in 10 (57.8%) study participants with confirmed TB reported having no symptoms and would thus have had no reason to seek care. Most of these cases (78%) occurred among participants who were not living with HIV and so were less likely to engage with the healthcare system.

"Sub-clinical or asymptomatic TB is a significant area of research, given the potential for transmission. There is ongoing research on how best to deal with this type of TB," Moyo says. However, she also cautions that the true number of asymptomatic cases was uncertain. "For example, we

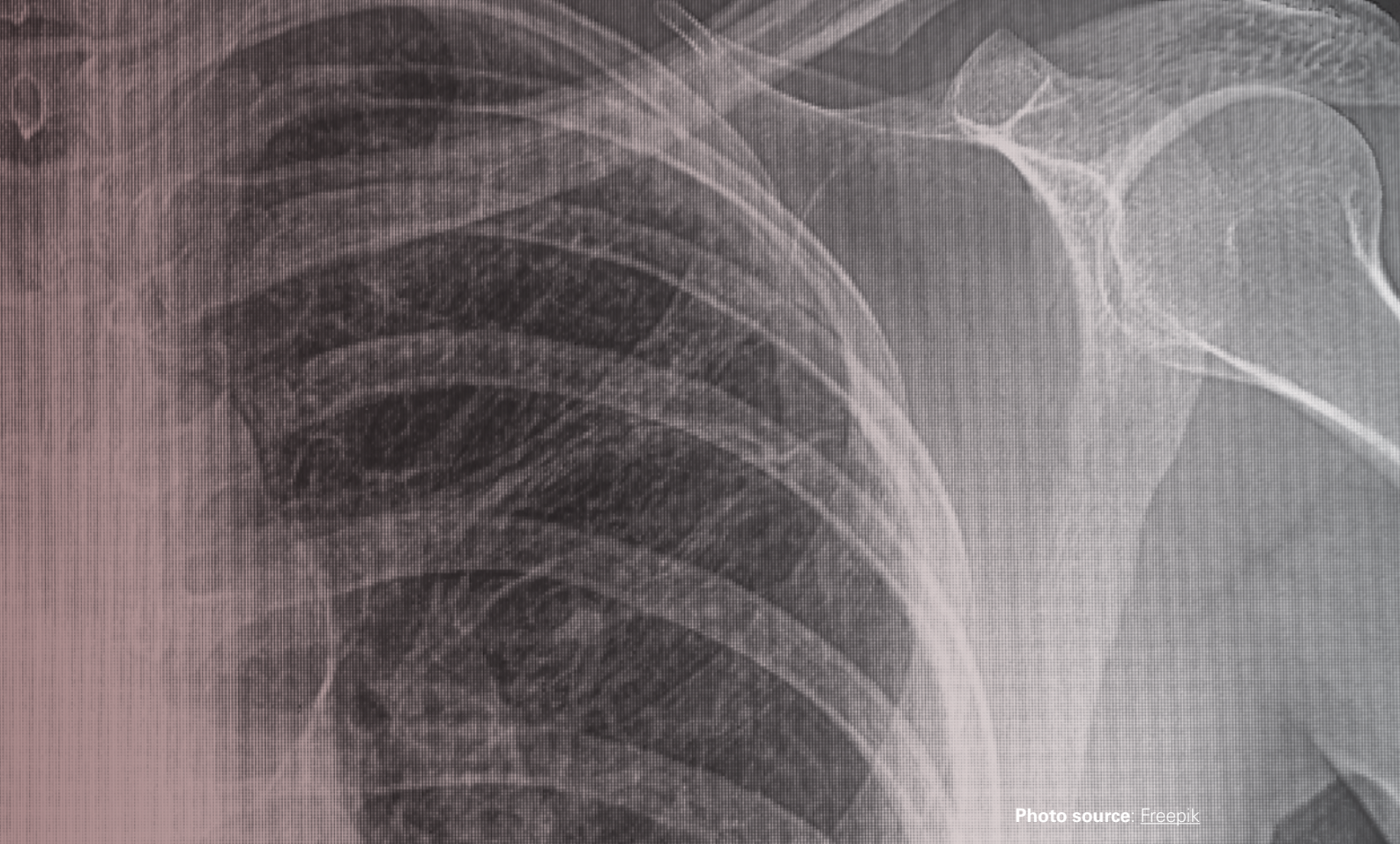


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have to think about the proportion of people we would classify as asymptomatic who actually had symptoms, but decided or felt that it was not important or serious enough to mention.”

Closing the gap

A quarter (27%) of symptomatic participants who had not sought care indicated that it was because they believed their symptoms were not serious enough, while 11% either reported having insufficient money to travel to a facility or reported that the facility was too far away. The majority (60%) of those who had not sought care reported that they still intended to do so.

The reasons for delays in seeking care are likely to be varied, Moyo says. “We need more research to better understand the healthcare-seeking behaviour for TB symptoms in South Africa.”

Some missed TB cases – particularly sub-clinical cases – can be found through [household contact tracing](#). South Africa also offers [preventative treatment](#) (prophylaxis) to people living with HIV in settings with high TB prevalence.

While HIV is a main driver of TB in South Africa, the TB prevalence among people without HIV is also high – almost half of the cases in the survey occurred in people without HIV, and people without HIV were less likely to seek care even when they reported symptoms.

Understanding when knowledge drives people to seek care is critical to increasing uptake of healthcare services for TB detection, Moyo says.

“We have learned that, going forward, we need to continue to strengthen the policies and interventions that deal with

reaching youth and men with TB testing and treatment,” Moyo continues. The TB programme could leverage and combine efforts with the HIV programme in male-focused services such as voluntary circumcision, for example. Additionally, ongoing public messaging should urge people not to be complacent about TB.

“Let us, the people in communities, be aware of TB symptoms and act on them, and our healthcare professionals remain alert for TB when attending to patients,” Moyo says.

Tackling TB in South Africa requires a multi-sectoral approach that bridges the clinical and the social sciences, Moyo believes. We also need to find innovative ways to find missed cases and close gaps in care, particularly after the decline in TB testing that followed the first COVID-19 lockdown.

The national TB survey was a collaboration between the South African Department of Health TB Programme; the South African Medical Research Council; the Human Sciences Research Council; the National Institute for Communicable Diseases; the World Health Organization (South Africa and Geneva); the United States Agency for International Development; The Global Fund to Fight AIDS, Tuberculosis and Malaria; and the Bill and Melinda Gates Foundation.

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