

Major South African trial did not improve tuberculosis control in gold mines

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A major trial aiming to cut the rate of tuberculosis (TB) among South Africa's gold miners did not reduce the number of cases or deaths from the disease, according to a study published in the *New England Journal of Medicine*.

Researchers from the London School of Hygiene & Tropical Medicine say that the results demonstrate the scale of the TB problem in South African gold mines, and highlight the need for a "combination prevention" approach to improve TB control. The TB epidemic in South Africa's gold mines worsened with the advent of the HIV epidemic in the 1990s. In 2008, around 3% of miners started TB treatment each year.

The Thibela TB study of 78,744 miners in 15 gold mines from 2006 to 2011 looked at the effectiveness of screening and treating active TB, and providing [preventive therapy](#) to the entire workforce with the aim of interrupting TB transmission.

27,126 miners in eight gold mines were screened for TB. Miners found to have active TB disease were given TB treatment, and all other miners were offered a nine-month course of isoniazid preventive therapy (a low-cost medication that prevents latent [tuberculosis](#) infection from progressing to clinically apparent disease). In the other seven mines, the mine TB control programmes continued their usual practice, which included access to free TB diagnosis and treatment services, and active screening for TB at least once a year, with isoniazid preventive therapy included as part of HIV care.

Although isoniazid preventative therapy was found to be safe and effective in preventing TB among people who took it, the effect wore off very rapidly once the treatment stopped. 12 months after the end of the intervention, researchers did not find any difference in the number of cases of TB between the workers in the mines where mass TB screening and preventive therapy was offered, compared to mines continuing standard practice.

Lead London School of Hygiene & Tropical Medicine investigator Alison Grant, Professor of International Health, said: "HIV, exposure to silica dust in the mines and close working and living conditions predispose South African gold miners to TB. As conventional control methods were not working, we investigated a radical approach to TB control. Our study shows that isoniazid preventive therapy works while people take it, but, in this setting, the effect was not enough to improve overall TB control. The findings highlight the scale of the problem of TB in these mines.

"Our data suggests that to control TB in South African gold mines, we need a "combination prevention" approach with better tests to find TB, prompt treatment for those found to have active TB, increased coverage of HIV treatment and effective TB preventive therapy regimens. Continuous isoniazid preventative therapy should be considered for miners at highest risk of TB infection, such as those with HIV."

More information: G Churchyard, K Fielding, J Lewis, L Coetzee, E Corbett, Pr Godfrey-Faussett, R Hayes, R Chaisson, and A Grant for the Thibela TB Study Team. A Trial of Community-wide Isoniazid Prophylaxis for Tuberculosis Control. *New England Journal of Medicine*. [DOI: 10.1056/NEJMoa1214289](https://doi.org/10.1056/NEJMoa1214289)

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