

Contribution of TB screening as part of community-wide IPT to TB case finding among South African gold miners

GJ Churchyard, L Coetzee, K Fielding, V Chihoto, P Herselman, M Luttig, D Muller, F Popane, AD Grant

Aurum Institute for Health Research
London School of Hygiene and Tropical Medicine

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Setting: A study of community-wide isoniazid preventive therapy (IPT) in South African gold mines, where HIV prevalence (approx. 30%) and TB incidence (3.5% per year, despite annual radiological screening) are high. We estimate i) the contribution of TB screening, as part of IPT, to overall TB case detection in the workforce and ii) the relative yield of symptom and radiographic screening.

Methods: Participants were screened for TB prior to IPT using a symptom check and CXR. All TB suspects identified either by the IPT study or routinely by the mine health service have sputum collected by study staff for microscopy, culture and speciation. We assume that a positive culture identified as MTB represents a TB case. This analysis is limited to individuals with no prior history of TB.

Results: Between June 2006 and October 2007, 11,077 individuals were screened for TB by the IPT study, which detected 57.7% (120/208) of all TB cases during this period. The proportion of TB cases detected by symptom and/or CXR screening by smear status is shown in the table.

	Smear positive (N=56) n (%)	Smear negative (N=64) n (%)
Symptoms only	3 (5.3%)	12 (18.8%)
Abnormal CXR only	30 (53.6%)	43 (67.2%)
Symptoms & abnormal CXR	23 (41.1%)	9 (14.0%)

Conclusion: TB screening as part of the study detected the majority of TB cases in this setting. Radiological screening substantially increases the number of TB cases detected.