

## The increasing burden of smear negative TB in high HIV prevalence settings – the case of Khayelitsha, Cape Town

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**Background:** TB incidence in Khayelitsha (population 400 000) is currently more than 1,500/100,000. The antenatal HIV prevalence rate is 33 %, and the TB/HIV co-infection rate is at 70%. This means that PTB is increasingly difficult to identify particularly in severely immuno-compromised cases, and basing the diagnosis of PTB by smears alone risks becoming increasingly erroneous.

**Methods:** The methods of diagnosis of TB in all patients registered during 2005 and 2006 in the largest TB clinic in Khayelitsha are described (N=3592). In a sub-sample (N=544), corresponding to all patients registered during the first quarter of 2006; a more detailed analysis of the proportion of patients diagnosed by smears and cultures is carried out and linked to treatment outcomes.

**Results:** Between 2005 and 2006, the overall proportion of patients registered with a diagnostic smear increased by 10%. Amongst all diagnostic smears, the proportion of negative smears is increasing more rapidly than the proportion of positive smears.

**Conclusion:** In HIV co-infected patients, smear negative cases are an increasing proportion of the overall TB burden. The increasing numbers of drug-resistant TB cases in environments of high HIV-prevalence requires for new approaches to be able to respond at the primary care level. Smears can no longer be considered the golden standard for PTB diagnosis in high HIV prevalence settings.