

## Yes, we can eradicate tuberculosis in South Africa

**To the Editor:** Tuberculosis (TB) is a major killer in South Africa (SA), responsible for 40 542 deaths in 2013<sup>[1]</sup> and with an estimated incidence of 450 000 per year.<sup>[2]</sup> The World Health Organization (WHO) aims to eradicate the disease by 2035,<sup>[3]</sup> and the first milestones in the process of eradication are to reduce the 2015 deaths and incidence by 35% and 20%, respectively, by 2020. The last indicator is to reduce the deaths by 95% by 2030. Are the WHO indicators achievable for SA? The answer is unequivocally in the affirmative, and for the following reasons.

Firstly, the reduction in TB deaths in SA was 45% between 2008 and 2013,<sup>[1]</sup> much higher than 35%. Secondly, a definitive diagnosis of suspected TB can be made within a week if all patient specimens can have access to the GeneXpert, and all can be achieved. Thirdly, effective treatment of all drug-sensitive TB infections can be achieved within 6 months. Moreover, all drug-resistant infections can be identified with the aid of GeneExpert and then treated with bedaquiline and other new drugs when these become available for all patients.<sup>[4]</sup> Fourthly, the biggest challenge in SA has been that of a weak healthcare system. Some good news is that I have piloted an innovative mHealth approach in one municipal ward of the Eastern Cape Province, and the results of proof of concept are now available.<sup>[5]</sup> The new approach entails a 100% household survey in one municipal ward. It is eminently scalable to national level, and can address most of the weaknesses of the health system very effectively through the following mechanisms:

- Determining the prevalence and distribution of TB infections at household level in each municipal ward and district (Table 1). The activity would identify all TB infections, as recommended by the Stop TB Partnership's theme for 2015.<sup>[6]</sup> This would help with more accurate monitoring of the epidemics of TB and HIV, where patients can be followed up electronically.
- Enhanced effectiveness and efficiency of ward-based primary healthcare outreach teams, as they help to facilitate diagnosis, treatment and prevention of TB and HIV infections.

- Strengthening of community participation, community health action and health promotion, both within the structures of local government and in partnership with local non-governmental organisations and the private sector.
- Facilitating strong and effective partnerships with research and tertiary institutions in documenting the epidemiology of TB infections and related risk factors, as well as development and testing of TB drugs, and monitoring and evaluation of control of the epidemic.
- Facilitating the process of addressing social determinants of disease by all departments of government at provincial and national level, with a special focus on unemployment, access to social grants and household food security.
- Providing a quick and cost-effective mechanism that can be used by National Health Insurance pilot districts to leapfrog strengthening of the health system in all the provinces of SA.

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**Table 1. Number of persons reported with cough/TB in each village of municipal ward<sup>[5]</sup>**

| Village     | Cough, n (%) | TB, n (%) | Total, n (%) | Population size |
|-------------|--------------|-----------|--------------|-----------------|
| Bongolethu  | 6 (0.7)      | 5 (0.6)   | 11 (1.2)     | 897             |
| Maya        | 2 (0.1)      | 6 (0.4)   | 8 (0.5)      | 1 469           |
| Ntlakwefolo | 5 (0.3)      | 19 (1.0)  | 24 (1.6)     | 1 457           |
| Mkhukhwini  | 1 (0.3)      | 1 (0.3)   | 2 (0.7)      | 282             |
| Mngqanga    | 2 (0.5)      | 13 (3.6)  | 15 (4.1)     | 363             |
| Zwelitsha   | 0 (0.0)      | 8 (1.0)   | 8 (1.0)      | 766             |
| Ntlonze     | 0 (0.0)      | 12 (0.8)  | 12 (0.8)     | 1 479           |
| Mtyhintyini | 5 (0.5)      | 10 (1.0)  | 15 (1.5)     | 1 019           |
| Mbinzana    | 1 (0.1)      | 6 (0.5)   | 7 (0.8)      | 929             |
| Holi        | 0 (0.0)      | 7 (0.9)   | 7 (0.9)      | 771             |
| Total       | 22 (0.2)     | 87 (0.9)  | 109 (1.1)    | 9 432           |