

we did measure fractional exhaled nitric oxide for airway inflammation—a measurement that offers high sensitivity and specificity—and found that there was no difference between study groups at baseline or study entry. Nor did we screen for mycoplasma infection—a disorder that remains unclear in chronic cough, since treatment with low-dose erythromycin was found to have no effect on cough frequency or severity.<sup>10</sup> A clinical history of refractory cough after an infection is quite common and gabapentin could have a treatment role since central sensitisation is a possible mechanism.

We declare that we have no conflicts of interest.

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## Resistance to second-line drugs in multidrug-resistant tuberculosis

The cohort study by Tracy Dalton and colleagues (Oct 20, p 1406),<sup>1</sup> which finds that the prevalence of extensively drug-resistant (XDR) and second-line drug-resistant tuberculosis in nine countries is higher than current WHO estimates, confirms the alarming rates of resistance found by Médecins Sans Frontières (MSF). In our Uzbekistan tuberculosis programme,<sup>2</sup> 190 (27%) of 709 patients with MDR tuberculosis had pre-XDR disease (defined as resistance to any fluoroquinolone or injectable second-line drug).

Dalton and colleagues<sup>1</sup> found that previous treatment for MDR tuberculosis was the strongest risk factor for resistance. However, since they do not explain the indications for doing culture and drug-susceptibility testing in the study countries, these patients could be a select group with more previous exposure. Our Uzbekistan programme data are based on expanded access to culture and drug susceptibility testing to all patients suspected of having tuberculosis. With this approach we identified a higher than expected rate of MDR tuberculosis in new patients: 201 (38%) of the 529 patients started on MDR tuberculosis treatment in the first three quarters of 2012 had never been treated for tuberculosis before (Jane Greig, personal communication). This finding highlights the extent to which MDR tuberculosis has become an epidemic in its own right.

It is important to ensure that new drug regimens are effective against *Mycobacterium tuberculosis* with extensive resistance to both first-line and second-line drugs. To ignore second-line resistance would be to repeat the error made when first-line resistance was ignored in the early implementation of DOTS programmes.

We declare that we have no conflicts of interest.

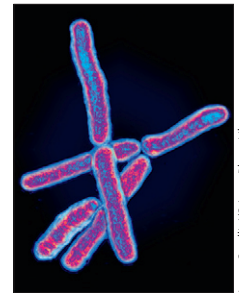
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- 1 Dalton T, Cegielski P, Akkslip S, et al. Prevalence of and risk factors for resistance to second-line drugs in people with multidrug-resistant tuberculosis in eight countries: a prospective cohort study. *Lancet* 2012; **380**: 1406–17.
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The lack of participation of India and China, who between them share 50% of the world's burden of multidrug-resistant (MDR) tuberculosis, is a major limitation of the Preserving Effective TB Treatment (PETTS) study.<sup>1</sup> Despite this limitation, the findings of the PETTS investigators find great and ominous resonance in India.

Second-line drugs are prescribed with brazen impunity by a range of private practitioners in India, many of them not even allopaths. A study from Dharavi,<sup>2</sup> Asia's largest slum, located in the heart of Mumbai, showed that, of the 106 practitioners prescribing second-line drugs to a hypothetical patient with MDR tuberculosis, 60% were trained in one of the alternative systems of medicine (homoeopathy, ayurveda, or unani) that flourish in India. Only five of these 106 physicians could write an appropriate prescription with a minimum of three new second-line drugs in the right doses for a minimum recommended duration of 18 months. Most respondents added a single second-line drug, which 70% of the time was a fluoroquinolone. More tragically, these inappropriate prescriptions would be dispensed without any checks or safeguards in place, since tuberculosis prescriptions are not controlled in India and even the most inexperienced doctor can prescribe second-line drugs with impunity. India has 1 million chemists policed by just 4000 drug inspectors, and even if laws



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