- World Health Organization. Multidrug and extensively drug-resistant TB (M/XDR-TB): 2010 global report on surveillance and response; 2010. http://whqlibdoc.who.int/ publications/2010/9789241599191_eng.pdf (accessed March 23, 2010).
- 3 Kam KM, Yip CW, Cheung TL, Tang HS, Leung OC, Chan MY. Stepwise decrease in moxifloxacin susceptibility amongst clinical isolates of multidrug-resistant Mycobacterium tuberculosis: correlation with ofloxacin susceptibility. Microb Drug Resist 2006; 12: 7–11.
- 4 Udwadia ZF, Amale RA, Ajbani KK, Rodrigues C. Totally drug-resistant tuberculosis in India. Clin Infect Dis 2011; published online Dec 21. DOI:10.1093/cid/cir889.
- 5 Mitnick CD, Shin SS, Seung KJ, et al. Comprehensive treatment of extensively drug-resistant tuberculosis. N Engl J Med 2008; 359: 563-74.

MDR tuberculosis and non-compliance with therapy

Suheir Ereqat and colleagues¹ described a patient with multidrugresistant (MDR) tuberculosis who has defaulted after 2 years of treatment and is untraceable. They lament the absence of legal means by which this patient might be forced to return to Palestine and continue treatment.

We believe this approach puts a mistaken emphasis on legal coercion that is neither effective nor humane. If this patient failed treatment, as it would seem, an understanding of the reasons for treatment failure would be important. Did the patient have a history of defaulting treatment previously and, if so, what counselling did this patient receive? Aside from directly observed treatment, what support was offered to empower him to continue his treatment? What further treatment do the authors suggest should be prescribed? Forcing a patient to continue an ineffective, toxic regimen that results in no clear benefit is clearly difficult. For patients like these, attention could be more usefully directed at exploring possible regimens with better chances of cure; and securing an appropriate environment, such as supportive accommodation with access counselling and palliative care when

required, that might reduce the risk of transmission to others, as is being attempted in South Africa.²

As case detection and treatment for MDR tuberculosis is scaled up internationally,3 how to care for patients who have exhausted all treatment options with existing second-line drugs will become increasingly important. Currently, no third-line treatment for tuberculosis exists. Until newer drugs become available, we will need to care for such patients in a manner that balances the risk of ongoing transmission with individual human rights. The health system must still support patients in whom treatment has failed. The provision of homebased palliative care, for example, is likely to be more humane and less costly to health services compared with involuntary detention.4

Although a small proportion of patients might realistically be classified as recalcitrant, and legal means may be necessary to restrict transmission, we feel that every effort should be made to support patients, either to continue treatment if they so wish, or to live out the remainder of their lives in a manner that minimises the risk of transmission to others.⁵ In this case, the threat of incarceration is also likely to further reduce the chances that this patient will be located. We feel that such patients should not be managed by an automatic resort to legal coercion.

We declare that we have no conflicts of interest.

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- Ereqat S, Spigelman M, Bar-Gal GK, Ramlawi A, Abdeen Z. MDR tuberculosis and non-compliance with therapy. Lancet Infect Dis 2011; 11: 662.
- 2 Médecins Sans Frontières. Scaling up diagnosis and treatment of drug-resistant tuberculosis in Khayelitsha, South Africa. 2011. http://www.msf.org.za/publication/ scaling-diagnosis-and-treatment-drugresistant-tuberculosis-khayelitsha-southafrica (accessed Mar 24, 2011).

- World Health Organization. Towards universal access to diagnosis and treatment of multidrug-resistant and extensively drugresistant tuberculosis by 2015: WHO progress report 2011. http://whqlibdoc.who.int/ publications/2011/9789241501330_eng.pdf (accessed Mar 24, 2011).
- 4 Upshur R, Singh J, Ford N. Apocalypse or redemption: responding to extensively drug-resistant tuberculosis. Bull World Health Organ 2009; 87: 481–83.
- 5 London L. Confinement for extensively drug-resistant tuberculosi: balancing protection of health systems, individual rights and the public's health. Int J Tuberc Lung Dis 2009: 13: 1200–09.

Authors' Reply

We thank Helen Cox and colleagues for their comments, but point out that we do not disagree with them. Health is a human right that should be guaranteed through legal and social policies. We endeavoured in our letter¹ to ask questions, not to propose an answer. Naturally the Palestinian Health Authority made all efforts to keep the patient in therapy. Our letter was directed at a recalcitrant patient, one who has had all counselling suggested and who then disappeared and thus refused further therapy. What are our obligations as doctors in this case and what do we do if the patient goes to a different country? As multidrugresistant microbes are becoming an increasing health and community problem, should thought be given to making some such infections notifiable diseases, as is done in Australia for various other diseases?2 Such a move could solve many problems and allow some control of patients.

Cox and colleagues state that no new third-line treatment for tuberculosis exists, but happily the situation is not quite that bleak.^{3,4} We would pose the question: if this individual were a teacher of young children, would he be allowed to work? And if he moved and left treatment, what are the legal obligations and constraints on his physicians or the relevant health authority to notify people at his destination or issue a general warning? We too believe that any form of control should not affect the patient's dignity, but the question of compulsory isolation for

multidrug-resistant cases that might represent a risk of contamination to society remains open.

We declare that we have no conflicts of interest. The Spigelman's cited as authors in the references have no relation or connection with the principle author of this letter.

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- Ereqat S, Spigelman M, Bar-Gal GK, Ramlawi A, Abdeen Z. MDR tuberculosis and non-compliance with therapy. Lancet Infect Dis 2011; 11: 662.
- 2 Autralian Government. Australian national notifiable disease and case definitions. http:// www.health.gov.au/internet/main/publishing. nsf/Content/cdna-casedefinitions.htm (accessed Jan 25, 2012).
- 3 Spigelman M, Woosley R, Gheuens J. New initiative speeds tuberculosis drug development: novel drug regimens become possible in years, not decades. Int J Tuberc Lung Dis 2010; 14: 663–64.
- 4 Nuermberger EL, Spigelman MK, Yew WW. Current development and future prospects in chemotherapy of tuberculosis. Respirology 2010; 15: 764–78.

Resistance after selective decontamination

Anne Marie de Smet and colleagues¹ report that selective digestive tract decontamination (SDD) protects against acquisition of resistant microorganisms in patients intensive-care units (ICUs). In their previous publication, they described how the cluster design hampered of randomisation: concealment physicians knew which treatment their patients would receive.² Because only about one third of patients admitted to the ICU received SDD, in the control period doctors selected patients who "would have received SDD if this had been the treatment period."2,3 This method of selection

led to baseline differences between groups and might have also biased their recent analysis:1 diagnostic investigations, such as microbiological cultures, might have been different in patients known to receive SDD. Protocols in the SDD and the control groups differed between the various ICUs: endotracheal cultures were obtained on a regular basis between admission and discharge from all patients in the SDD group, but not from all patients on standard therapy.1 Thus, colonisation with highly resistant microorganisms (HRMO) on admission could not always be excluded in the control group, because of the protocol rule that patients with the same species of HRMO isolated during the first 3 days and after the third day were not classified as having ICU-acquired HRMO. This rule was applied for patients with cefotaximeresistant and tobramycin-resistant Gram-negative bacteria. The lower frequency of culturing during the first 3 days of admission on standard therapy compared with SDD precludes the recognition of colonisation on admission (and hence exclusion as ICU acquired) in the control group, which implies bias in favour of the SDD group. The authors mention that the findings did not differ in the first 3 days during the control period between the ICUs that took cultures with different frequencies. This was a post-hoc finding, based on the differences in the protocol in the various ICUs that participated in the same trial; the conclusion of the paper depends on this casuistic finding, but there are no data provided for

The frequency of colonisation of patients treated with cefotaxime, tobramycin, and colistin, with microorganisms resistant to these same antibiotics, was lower than in untreated patients. This finding defies microbiological experience. The authors do not discuss this singularity even though this finding partly contradicts earlier findings in the same trial, which

showed increased resistance rates to ceftazidime during SDD.⁴

At face value, this study shows that in the short term, during ICU stay, patients might benefit from SDD. The questions about the effects in the long term, for patients and for the hospital environment, remain unanswered.

We declare that we have no conflicts of interest.

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- de Smet AMGA, Kluytmans JAJW, Blok HEM, et al. Selective digestive tract decontamination and selective oropharyngeal decontamination and antibiotic resistance in patients in intensive-care units: an open-label, clustered group-randomised, crossover study. Lancet Infect Dis 2011: 11: 372-80.
- de Smet AMGA, Kluytmans JAJW, Cooper BS, et al. Decontamination of the digestive tract and oropharynx in ICU patients. N Engl J Med 2009; 360: 20–31.
- Dekkers OM. Fall in ICU mortality due to selective decontamination not yet proven. Ned Tiidschr Geneeskd 2009: **153**: A491.
- 4 Oostdijk EAN, de Smet AMGA, Blok HEM, et al. Ecological effects of selective decontamination on resistant Gram-negative bacterial colonization. Am J Respir Crit Care Med 2010; 181: 452-57.

We would like to highlight four aspects of the study presented by Anne Marie de Smet and colleagues,1 which we believe cast doubt on their conclusion. First, the frequency of blood culture collections in the selective digestive tract decontamination (SDD) and selective oropharyngeal decontamination (SOD) groups was not less than in the standard care group,1 which suggests that the clinical suspicion of sepsis was similar in the three groups and that SOD and SDD simply suppressed the growth of bacteria in the blood cultures.

Second, screening with endotracheal aspirate cultures within 3 days of entry was undertaken for only 35% of patients in the standard care group