individual behaviours of sleepy drivers. Our data, albeit from a limited number of patients with OSAS, support the reliability of a driving simulator approach for the identification of patients with OSAS at risk: poor performers have high risk if they keep on driving when sleepy. Accordingly, poorer simulated driving performance was associated with crash history only in our subjects with ‘tisky’ behaviour. Nevertheless, the use of driving simulators is still recommended as a research tool given the absence of a standardisation that is the prerequisite for use in clinical practice.

Finally, crash risk is a multifactorial entity. Even if it is highly influenced by sleepiness, individual behaviours have a prominent effect in letting sleepiness determine a car accident. We emphasise that educational programmes, potentially involving driving simulators in different settings, remain the key instrument for risk management of sleepiness-related car accidents.

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Effect of acute hypoxia on QTc interval in respiratory patients undergoing fitness to fly tests

INTRODUCTION
Current UK guidelines recommend administration of in-flight supplemental oxygen to patients with chronic respiratory disease who have sea level arterial oxygen saturations <92% or partial pressure of oxygen (PaO2) <6.6 kPa (50 mm Hg) during a hypoxic challenge fitness to fly test.1 Hypoxia has been shown to prolong cardiac QTc interval, assessed by the QT interval corrected for heart rate (QTc), and this may underlie the occurrence of potentially life-threatening cardiac arrhythmias2–4; however, few data exist about the cardiac response to hypoxia in patients with respiratory disease.

To establish whether hypoxia prolongs the QTc, potentially increasing the risk of significant arrhythmias in patients with respiratory disease, we analysed data from respiratory patients referred to our lung function department for fitness to fly testing.

METHODS
Between 1 April 2008 and 27 February 2009, 101 patients (median age 57 years, range 20–87 years, 57.4% female) underwent hypoxic challenge (breathing 15% oxygen), recorded continuously and an ECG recorded at baseline and after 15 min hypoxic exposure. In 65 patients (64.4%), capillary blood gases were analysed at the same time points. Further details are available online.

RESULTS
Disease aetiology was interstitial lung disease (39.6%), chronic obstructive pulmonary disease (COPD) (11.9%), bronchiectasis (11.9%), sarcoidosis (7.9%), cystic fibrosis (6.9%), systemic sclerosis (5.0%), asthma (5.0%), extrinsic allergic alveolitis (3.0%) and other chronic lung conditions (7.9%). Fifteen subjects (14.9%) had known cardiac disease.

Following hypoxic exposure, mean±SEM arterialised capillary PaO2 decreased from 10.56±0.14 kPa to 6.62±0.09 kPa (p<0.001) and mean arterial oxygen saturation (SaO2) from 95.8±0.15% to 87.2±0.45% (p<0.001). Arterial carbon dioxide partial pressure, bicarbonate and transcutaneous carbon dioxide partial pressure also decreased (p<0.05, table 1).

Twenty patients (19.8%) became symptomatic during the test (combinations of dyspnoea, palpitations, nausea and dizziness). Eighty patients (79.2%) met the BTS criteria for use of supplemental oxygen in-flight. Hypoxic challenge resulted in a significant increase in heart rate (from 83.2±1.48 bpm to 86.9±1.50 bpm; p<0.001) and decrease in PR interval (161.2±1.64 ms to 158.0±2.07 ms; p=0.02). In keeping, the QT interval decreased (557.8±4.08 ms to 348.5±3.49 ms; p<0.001). However, ECG frontal axis and QT, did not change (415.2±2.57 ms to 417.0±2.59 ms; p=0.50).

DISCUSSION
Exposure to acute hypoxia (15% fractional inspired oxygen) is not associated with significant changes in cardiac QTc in patients with chronic respiratory disease, in contrast to the QTc prolongation seen in healthy subjects at altitude2 4 5. The absence of response might be due to hypoxic preconditioning6-7 or drug effects upon autonomic efferent response (eg, salmeterol, ipratropium) or through other means (eg, renin-angiotensin system antagonists8). Given the association between prolonged QTc and sudden death in COPD,9 these data are reassuring to patients with chronic lung disease who wish to fly. However, further studies are needed to confirm these findings, as well as the effects of prolonged hypoxia and exercise.

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A new potential biomarker for childhood tuberculosis

One of the major research areas for tuberculosis (TB) focuses not only on diagnostics but also on biomarkers that can provide prognostic data about the disease course and response to treatment. Although progress has been made, improved tests for paediatric TB are especially needed. Young children are at increased risk of progressing to TB after exposure, and may suffer from disseminated forms of the disease. Due to the paucibacillary nature of paediatric disease, the current armamentarium and future pipeline of TB diagnostics that largely rely on microbial growth and/or molecular detection are unlikely to demonstrate performance equivalent to that in adults. Thus, an accurate surrogate marker of disease may be crucial to improving the diagnosis of paediatric TB. We have tested and evaluated a novel B-cell assay called the antibodies in lymphocyte supernatant, or ALS, which has performed very well in diagnosing TB disease both in Asia and Africa (manuscript in preparation). Here, we report the performance of ALS as a biomarker in children with culture-confirmed TB.

The ALS assay is based on a principle similar to that of the enzyme-linked immunosorbent spot assay, measuring antibody-secreting cells in cultures of peripheral blood mononuclear cells (PBMCs). The ALS assay is based on a principle similar to that of the enzyme-linked immunosorbent spot assay, measuring antibody-secreting cells in cultures of peripheral blood mononuclear cells (PBMCs). The ALS assay is based on a principle similar to that of the enzyme-linked immunosorbent spot assay, measuring antibody-secreting cells in cultures of peripheral blood mononuclear cells (PBMCs). The ALS assay is based on a principle similar to that of the enzyme-linked immunosorbent spot assay, measuring antibody-secreting cells in cultures of peripheral blood mononuclear cells (PBMCs). The ALS assay is based on a principle similar to that of the enzyme-linked immunosorbent spot assay, measuring antibody-secreting cells in cultures of peripheral blood mononuclear cells (PBMCs). 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