TB: from screening to compliance

**S27** HAVE RECENT CHANGES TO HEALTH POLICIES INCREASED DIAGNOSTIC DELAY AMONGST MIGRANT PATIENTS WITH ACTIVE TB?

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**Background** In April 2014 the UK government launched the ‘Migrant and Visitor Cost Recovery Programme’ (MVCRP): a series of policy changes to recoup costs from ‘chargeable’ (largely non-UK born) patients. In England approximately 75% of tuberculosis (TB) cases occur in those born abroad. Delays in treatment increase the risk of morbidity and mortality and threaten public health. We considered whether time between symptom onset and starting treatment for TB has increased since the introduction of the MVCRP.

**Methods** Adult TB cases notified on the London TB Register between 2011 and 2016 were identified. Incomplete data sets were excluded. We examined time to treatment between UK born and Non-UK born patients before and after the policy change using a student paired t-test. To further evaluate non-UK born patients, we labelled a delayed diagnosis as ≥ median time to treatment for all patients (79 days). We used a chi-squared test to look for an association before developing a logistic regression model adjusting for age, sex, occupation, time in the UK and social risk factors. Other potential confounders were not included in the final model if they had no effect on the original association. Analyses were performed using Stata15.

**Results**

<table>
<thead>
<tr>
<th></th>
<th>Pre-MVCRP</th>
<th>Post-MVCRP</th>
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</thead>
<tbody>
<tr>
<td>UK born</td>
<td>36.4</td>
<td>37.6</td>
</tr>
<tr>
<td>Non-UK born</td>
<td>36.8</td>
<td>41.2</td>
</tr>
<tr>
<td>Mean age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(years)</td>
<td></td>
<td></td>
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<tr>
<td>Proportion female sex</td>
<td>0.42</td>
<td>0.34</td>
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<tr>
<td>Mean time to diagnosis</td>
<td>133.2</td>
<td>163.9</td>
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</tbody>
</table>

**Discussion** Our findings suggest an association between the introduction of the MVCRP and risk of a delayed TB diagnosis amongst migrants. We cannot exclude the possibility of unknown confounders. However, further investigation into the effect of policies restricting access to healthcare for migrants is urgently needed.

**S28** CHANGING DIAGNOSTIC PATTERN OF HIV AND TUBERCULOSIS CO-INFECTION IN ENGLAND, WALES AND NORTHERN IRELAND, 2000–2014


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**Background** HIV co-infection of tuberculosis (TB) patients is associated with TB disease progression, treatment complications, and higher mortality. Over the last decade, national guidelines have encouraged earlier diagnosis of HIV infection and greater use of anti-retroviral therapy (ART). We investigated the relationship between HIV and TB diagnoses at a national level.

**Methods** TB patients aged ≥15 years notified to Public Health England from 2000–2014 were linked to national HIV surveillance data. Amongst co-infected patients, we examined the order of TB and HIV diagnoses. Diagnoses were classed as ‘simultaneous’ if TB and HIV were diagnosed within 91 days of each other.
A RANDOMISED CONTROLLED TRIAL COMPARING SMARTPHONE ENABLED REMOTE VIDEO OBSERVATION WITH DIRECT OBSERVATION OF TREATMENT FOR TUBERCULOSIS


Background Directly observed treatment (DOT) has been the standard of care for tuberculosis since the early 1990s. In England DOT is targeted at those considered to be at high risk of poor adherence and clinically complex patients. We report the first randomised controlled trial of smartphone-enabled video observation of treatment (VOT) for active tuberculosis compared to DOT.

Methods Tuberculosis patients eligible for selective DOT in England were randomised to an offer of asynchronous VOT (daily remote observation using a smartphone app) or DOT (5 or 5 times weekly observation in community or clinic settings).

Results 58% of 226 randomised patients had a history of homelessness, drug use, imprisonment, alcohol or mental health problems. Of the 112 patients randomised to an offer of VOT, 70% had over 80% of scheduled observations completed over two months (the primary outcome measure) compared to 31% of 114 patients randomised to an offer of DOT (p<0.001). The effect was, in part, due to 51% of those randomised to DOT having less than one week of observation (compared to 10% of those randomised to VOT), and so not starting treatment with their allocated regimen. VOT patients sustained high observation levels throughout treatment, whereas this declined rapidly in DOT patients. We estimate that observation of a six month course of treatment with daily VOT cost £1645 per patient compared to £5700 for five times per week DOT.

Conclusions VOT is a more effective and cheaper approach to observation of tuberculosis treatment than clinic or community based DOT.