

Supplementary Material IV: Evidence Statements

Grading of evidence

No evidence – no evidence or clear conclusions from any of the studies;

Weak evidence – no clear or strong evidence/conclusions from high quality studies and only tentative evidence/conclusions from moderate quality studies or clear evidence/conclusions from low quality studies;

Moderate evidence – tentative evidence/conclusions from multiple high quality studies, or clear evidence/conclusions from one high quality study or multiple medium quality studies, with minimal inconsistencies across all studies;

Strong evidence – clear conclusions from multiple high quality studies.

Tuberculosis identification

Evidence statement 1: Effectiveness of using different types of healthcare workers on improving identification of active TB

1-1 **Conflicting evidence** arose concerning types of healthcare workers to improve TB screening. Aldridge et al., 2015 [+] showed that the uptake of TB screening did not improve when peers encourage and educate homeless people, compared to shelter personnel.¹ On the contrary, Duarte et al. 2011 [-]² and Goetsch et al. 2012 [-]³ showed an increase in uptake of TB screening amongst homeless people and drug users after involving community health workers (CHW) and key partners in the education and promotion of TB screening. The results demonstrated by Goetsch et al. fluctuated over the study period and both studies retrospectively compared the findings over different time periods, which might be an important source of bias.

1-2 **Moderate evidence** from two studies focussing on the identification of TB contacts by using peers. One study identified by this review, Ospina et al. 2012 [+], showed that contact tracing among migrants improved significantly by using CHWs from the same migrant community to coordinate contact tracing.⁴ The comparison group was recruited over a different time period, which reduced the quality of this study.

Ricks, 2008 [++],⁵ identified by the NICE review,⁶ suggested that contact tracing of drug users with active TB improved by using former drug users compared to healthcare workers. It was unclear if the improvement could be contributed to the use of peers, as the study also used enhanced case management for the peer-led intervention group, the control group received limited case management.

Evidence statement 2: Effectiveness of using different settings on improving identification of active TB

2-1 **Weak evidence** from Jit et al. 2011 [+] showed that a mobile TB service is an effective intervention to identify hard-to-reach individuals with TB as 35% of the cases identified by this mobile

TB service were asymptomatic.⁷

Four studies were identified by the NICE review,⁶ providing the following evidence:

2-2 **Weak evidence** from Mor et al., 2008 [-] suggesting that pre-migration screening in Ethiopian migrants reduced the risk of developing active TB in Israel and reduced the time from entry into the host country (Israel) until TB diagnosis compared to post-migration screening.⁸ The study compared two migrant groups recruited over two different time period what limited the quality of the findings.

2-3 **Weak evidence** from El-Hamad et al., 2001 [+] suggesting that active case finding conducted in a TB clinic improved TB screening completion among migrants compared to TB screening conducted in a non-specialist primary care facility.⁹ However, the study did not adjust for the differences in baseline characteristics.

2-4 **Weak evidence** from Bothamley et al., 2002 [-] showing that TB screening by symptom-based questionnaire was less useful in port-of-arrival clinics compared to homeless centres.¹⁰ In 90.9% of the migrants screened by questionnaire further TB screening was conducted compared to 100% of the questionnaire screened homeless people. The study findings were limited as the study compared two different hard-to-reach groups in two different settings.

2-5 **Weak evidence** from Miller et al., 2006 [+] suggesting that there was no significant statistical difference in screening uptake in the homeless centre where screening was optional and a prison where screening was mandatory, however, the homeless people received incentives for TB screening.¹¹ In the homeless centre more cases were detected but different methods were used. The evidence was weak as the study compared two groups with possibly different baseline characteristics, different TB prevalence and different tests were offered.

Evidence statement 3: Cost-effectiveness of using different settings on improving identification of active TB

3-1 **Weak evidence** from Jit et al. 2011 [+] that a mobile TB service is cost-effective, the incremental cost ratio for the screening service was £18,000 per Quality of Life Year (QALY) gained.⁷

A further two studies were identified by the NICE review:⁶

3-2 **Weak evidence** from Mor et al., 2008 [-] suggesting that pre-migration screening in Ethiopian migrants would save Israel \$449,817 over a five year period.⁸ Different sources were used for the cost analysis, with varying reliability, limiting the findings.

3-3 **Weak evidence** from Bothamley et al., 2002 [-] showed that TB screening among migrants as part

of the port-of-arrival programme had a cost-saving of £12.70 per person screened, it would cost an additional £0.50 per person screened at a homeless centre and £7.00 per migrant screened at a general practice.¹⁰ The findings of this study are limited as the study compared two different populations with possible different characteristics and TB prevalence.

Tuberculosis management

Evidence statement 4: Effectiveness of using different types of healthcare workers on improving management of active TB

Moderate evidence from one study identified by the NICE review⁶, Ricks, 2008 [++], suggested that drug users receiving enhanced case management by peers were more likely to complete TB treatment than drug users who received limited case management by healthcare workers (RR = 2.68, 95%CI 1.24-5.82; $p = 0.01$).⁵ The findings of this study are limited as the intervention group received enhanced case management and were managed by peers, therefore it is unclear which of the two contributed (more) to the improved treatment outcome.

Evidence statement 5: Effectiveness of using different settings on improving management of active TB

5-1 **Weak evidence** from Jit et al. 2011 [+] that treatment completion rate in patients treated by the mobile 'Find and Treat' service was higher (67.1%) than in the patients receiving standard care at a TB clinic (56.8%) and lost to follow-up rate in the patients treated by the mobile 'Find and Treat' service was lower (2.1%) than in the patients receiving standard care at a TB clinic (17.2%).⁷

5-2 **Weak evidence** from Deruaz & Zellweger, 2004 [-], showed that there was no statistical difference in treatment outcome when directly observed treatment was delivered at the healthcare facility or at a convenient site in the community in mixed hard-to-reach groups.¹² The findings were limited by a potential selection bias and the way the treatment outcome was collected differed in both groups.

Evidence statement 6: Cost-effectiveness of using different settings on improving management of active TB

6-1 **Weak evidence** from Jit et al. 2011 [+] that a mobile TB management service is cost-effective, the incremental cost ratio for the service was £4,100 per Quality of Life Year (QALY) gained.⁷

References

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