

Latent Tuberculosis Infection Among B Classification Arrivers to California; Opportunities for Improving Treatment Completion and Reporting

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Background

- Without treatment, new immigrants to the U.S. with latent tuberculosis infection (LTBI) are at risk for progressing to active TB.
- Immigrants with a TB classification have an opportunity to be treated during domestic evaluation.

Objective

- Report characteristics of immigrant arrivers with a TB classification and treatment outcomes among those found to have LTBI on domestic evaluation.
- Identify opportunities to increase domestic LTBI treatment completion and reporting among immigrants with a TB classification.

Methods

- California Electronic Disease Notification (EDN) data during 2012-2016 for immigrant arrivers who entered the U.S. after overseas evaluation were analyzed.
- Centers for Disease Control and Prevention TB classifications: B1 - abnormal chest radiograph consistent with TB (negative acid fast bacilli (AFB) sputum smears and cultures); B2 LTBI - TST positive, otherwise negative evaluation for TB; B3 - recent contact of a known TB case.
- Arrivers were categorized by their final TB classification on domestic evaluation as defined by the American Thoracic Society (ATS).
- Arrivers evaluated and assigned Class 2 (TB infection, no disease) or Class 4 (TB, inactive disease) were included in the analysis of treatment for LTBI.
- EDN does not capture LTBI treatment regimen. We defined a short-course LTBI treatment regimen as treatment that was completed in ≤ 135 days.
- Cochran-Armitage test for trend was used to calculate trends over time

Results

California class B arriver characteristics, 2012-2016 (n=32,038)

Figure 1. Class B arrivers by TB classification

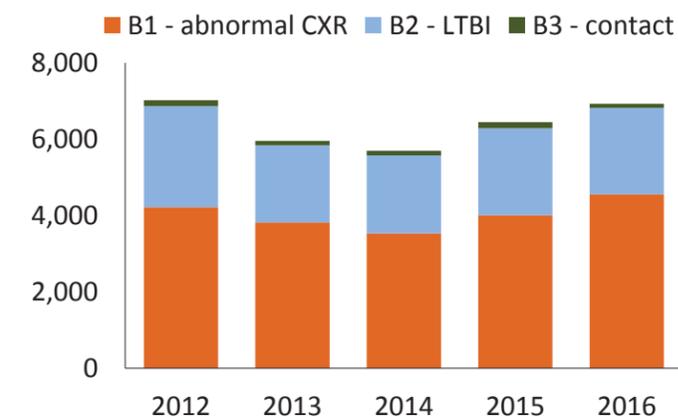


Table 1. History of prior treatment for TB disease among class B arrivers by country of origin

Country	Total arrivers	Treated No. (%)
China	2,681	526 (20)
India	670	131 (20)
Mexico	4,781	205 (4)
Philippines	15,621	3,053 (20)
Viet Nam	3,664	1,113 (30)
Other country	4,621	502 (11)
Total	32,038	5,530 (17)

Outcome of domestic TB evaluation

Figure 2. Evaluation outcome and LTBI treatment completion

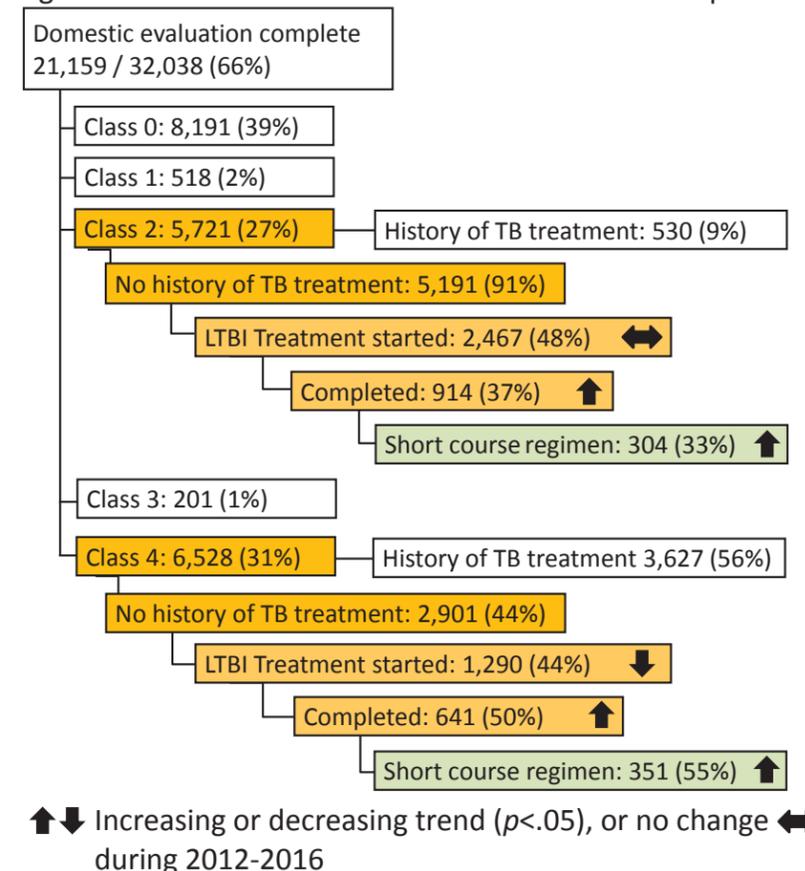
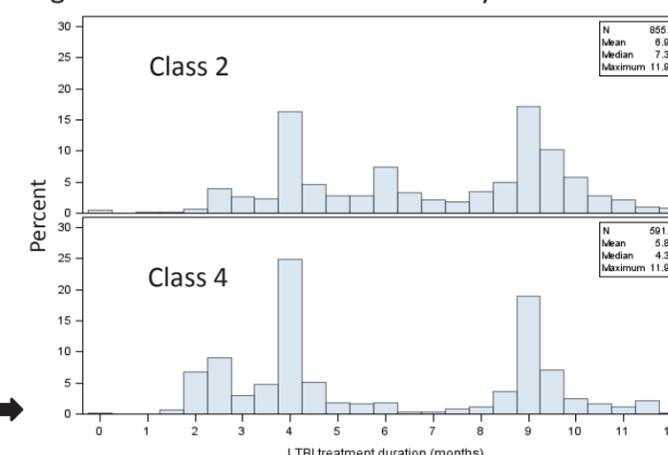


Table 2. Time intervals

Time interval	Time [IQR]
U.S. entry to EDN notification (days)	11 [7-18]
EDN notification to U.S. evaluation (days)	36 [23-58]
U.S. Evaluation to treatment start (days)	
Class 2	28 [11-66]
Class 4	81 [64-107]

IQR: interquartile range

Figure 3. LTBI treatment duration by TB class



Conclusions

- Nearly two-thirds of class B arrivers arrived with a B1 classification for TB.
- History of treatment for TB disease varied by arriver country of origin; lowest among arrivers from Mexico: 4%; highest among arrivers from Viet Nam: 30%.
- Most California class B arrivers received recommended domestic TB evaluation.
- Approximately half of arrivers with probable indication for LTBI treatment were reported to have started treatment.
- Increased treatment reporting and use of short course treatment are opportunities to improve TB prevention in California.

Limitations

- Incomplete data: 34% of domestic evaluation reports are pending and 59% of reports of LTBI treatment completion are missing.
- Data indicating the type of LTBI treatment regimen provided were not available precluding confirmation that a short course regimen was indeed used.

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