Reducing the U.S. Incidence of TB by Diagnosing and Treating LTBI in the Foreign-Born: Early Intervention Prevents Long-Term Conversion

Of the 9,287 persons diagnosed with active TB in the U.S. in 2016, just over two-thirds (6,307 or 67.9 percent) were foreign-born. The incidence of TB in the foreign-born (14.6 cases per 100,000) decreased 3.2 percent compared to 2015, but was about 14 times the incidence rate for U.S.-born (1.1 cases per 100,000). Many of the foreign-born come from countries where the TB incidence rate is significantly higher than in the U.S., so it’s likely they were exposed to TB in the country where they were born and/or lived.

Currently, TB screening of persons coming to the U.S. from other countries focuses on preventing the importation of active TB disease, not LTBI, and not everyone is screened. TB screening is required for individuals seeking permanent residence — mainly immigrants and refugees — but not for individuals entering the U.S. on a temporary Visa (e.g., for school or work).

In the U.S., 85 percent of all new TB cases are attributable to a conversion from LTBI to active disease; among the foreign-born, the number is closer to 92.5 percent.

In general, the risk of conversion is greatest in the two years immediately following infection. However, since 2013, the number of foreign-born individuals with newly diagnosed active TB has been higher among those who have lived in the U.S. for 10 or more years than in those who have been in the U.S. less than 10 years.

To better understand the factors driving this trend, the CDC analyzed TB cases reported among the foreign-born since 1993 in the National TB Surveillance System (NTSS). The findings include:

- Among the foreign-born living in the U.S. for 10 or more years the median time to diagnosis was 21 years.
  - Patients in this group were more likely to be living in a long-term care facility, report excess alcohol use during the year prior to diagnosis and have a history of an immunocompromising condition (other than human immunodeficiency virus or HIV) such as diabetes, end-stage renal disease, being on TNF-α inhibitors, or having received an organ transplant.
  - It’s possible that some of these patients may have been infected while traveling overseas months or years after their initial arrival in the U.S.

- Among the foreign-born living in the U.S. for less than 10 years, the median time to diagnosis was just two years. These patients were more likely to be between the ages of 10 and 29 and residents of a correctional facility at the time of diagnosis.

The following actions are recommended to reduce the rate of conversion from LTBI to active TB among the foreign-born:

- Individuals born in, or former residents of, countries with an increased prevalence of TB should be tested and treated for LTBI as appropriate regardless of their age or time spent living in the U.S.

- Clinicians are encouraged to strongly recommend treatment to patients diagnosed with LTBI, especially those at higher risk of converting to active TB because of 1) medical conditions (e.g., HIV infection, diabetes) or medications (e.g., TNF-α inhibitors) that weaken the immune system; 2) exposure to active TB within the past two years; or 3) the use of illegal drugs or alcohol abuse.

1 CDC Morbidity and Mortality Weekly Report, Vol. 66, No. 11, p. 295-298
2 The median time to diagnosis was calculated based on the interval between the date of U.S. entry and the date the TB diagnosis was reported to a health department.
3 The NTSS does not include any data about overseas travel after the initial U.S. arrival date.