Multidrug-Resistant Tuberculosis in Los Angeles County

Fact Sheet 2014

County of Los Angeles Public Health

MDR

Multidrug-resistant tuberculosis (MDR-TB) is a type of tuberculosis (TB) that is resistant to at least isoniazid and rifampin, the two most potent TB drugs in the standard therapy of TB disease.[1]

Pre-XDR

Pre-extensively drug resistant TB (pre-XDR-TB) is a type of MDR-TB that is resistant to isoniazid and rifampin, plus any fluoro-quinolone or at least one second-line injectable drug (amikacin, kanamycin, or capreomycin).[5]

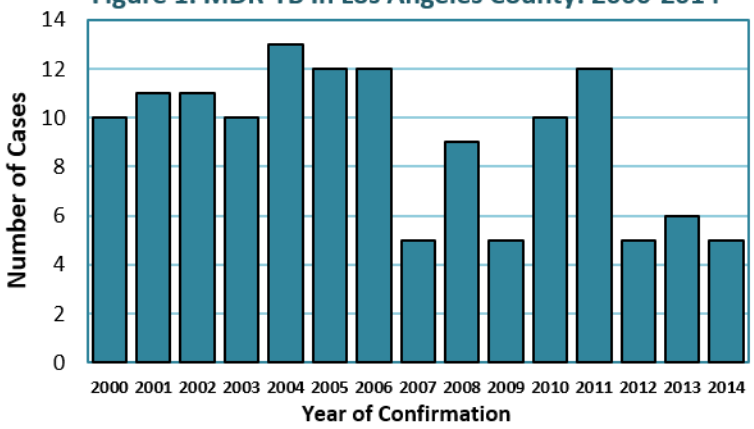
XDR

Extensively drug resistant TB (XDR-TB) is a rare type of MDR-TB that is resistant to isoniazid and rifampin, plus any fluoro-quinolone and at least one second-line injectable drug (amikacin, kanamycin, or capreomycin).[5]

Multidrug-resistant tuberculosis (MDR-TB) in Los Angeles County

Over the last 15 years, MDR-TB has comprised between 1% and 2% of all tuberculosis (TB) cases in Los Angeles County (LAC). From 2008 to 2014, there were 52 individuals confirmed with MDR-TB, of whom 12% (n=6) were confirmed with Pre-XDR-TB and 2% (n=1) with XDR-TB (Figure 2). Globally, in 2014, there were 480,000 people diagnosed with MDR-TB, of whom 9.7% had XDR-TB.[2]

Figure 1. MDR-TB In Los Angeles County: 2000-2014*



Demographics of MDR-TB Patients

From 2008-2014, 48% of MDR-TB patients in LAC were male. Forty-six percent of MDR-TB patients were 18-39 years of age at diagnosis, compared to 26% of non-MDR-TB patients (Figure 3). Data from California and the U.S. have shown that MDR-TB patients are, on average, younger than non-MDR-TB patients.[3,4]

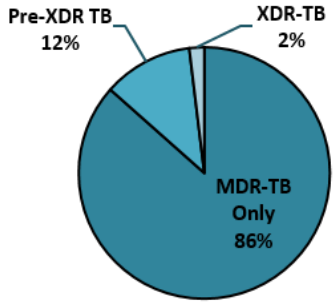
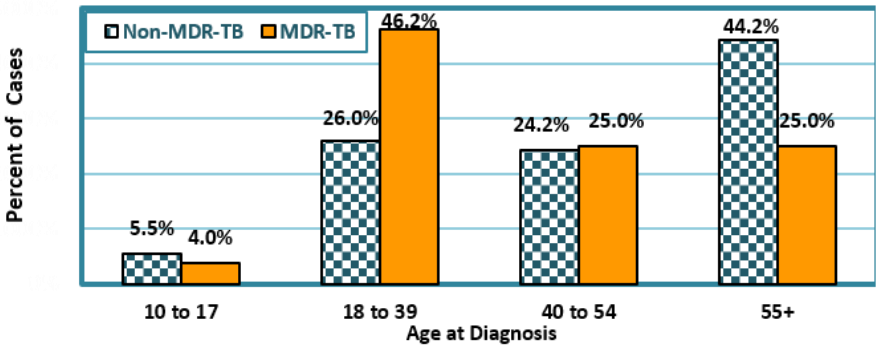


Figure 2. TB Cases by MDR-TB Resistance Pattern: LAC, 2008-2014*

Figure 3. TB Patients by MDR Status and Age Group: LAC, 2008-2014*



**Pasadena and Long Beach TB cases excluded because these two cities have their own TB Control Programs. LAC TB data last updated 7/15/15.*

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MDR-TB Patients Born Outside the U.S.

Among MDR-TB patients, 88% were non-U.S.-born and 12% were U.S.-born (Figure 4). Using the United Nations classification of world regions, most LAC MDR-TB patients originated from Asia and the Americas (Figure 5). The greatest number of patients were born in the Philippines (n=9) and Korea (n=8).

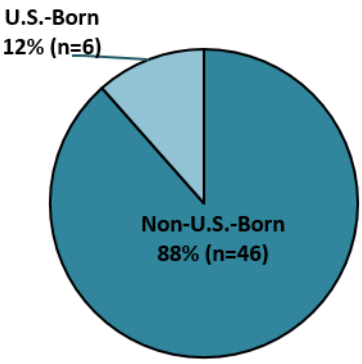
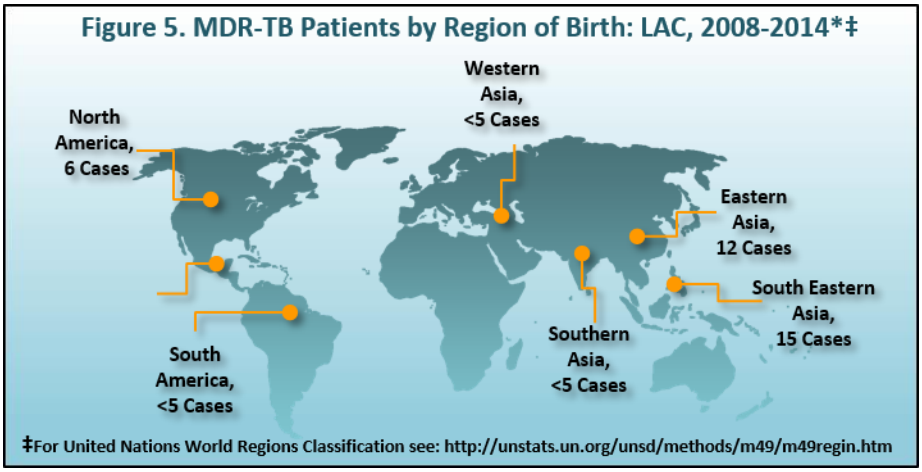


Figure 4. MDR-TB Patients by Place of Birth: LAC, 2008-2014*



Impact, Prevention and Care of MDR-TB

- Ensuring adherence to treatment and preventing exposure to known MDR-TB patients are important strategies to stop new development of MDR-TB.[1] The estimated cost of care is $134,000 per MDR-TB patient and $430,000 per XDR-TB patient, compared to $17,000 per non-MDR-TB patient.[6]
- The LAC Department of Public Health, Tuberculosis Control Program (TBCP) has an in-house MDR-TB unit that provides surveillance and consultations on MDR-TB patients and their contacts. The MDR-TB unit consults with providers to ensure appropriate MDR-TB diagnosis and treatment, monitors treatment outcomes, and conducts post-treatment follow-up for 2 years. The MDR-TB unit also provides follow-up for contacts to MDR-TB patients.
- To enhance MDR-TB surveillance, TBCP is developing a database to capture epidemiologic and case management data elements for MDR-TB patients, including patient TB history, adverse reactions to treatment, and post-treatment outcomes. Because LAC is a large jurisdiction with over 20 years of experience monitoring MDR-TB, these data will serve as an important resource to inform prevention and care activities for drug-resistant TB within LAC, as well as in other health departments.

References

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