

# Tuberculosis Patients Who Move Out of the United States: Characteristics and Updated Surveillance Protocol in California

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## Background

- The majority of California tuberculosis (TB) patients are born outside the U.S., and many may move out of the country during treatment.
- Although some treatment outcomes for these patients have been reported by local health jurisdictions (LHJs), the California TB Control Branch (TBCB) has not specifically requested these outcomes.
- Because CDC is now encouraging collection of outcomes for patients who move out-of-country by including it in their formula for allocating funding, TBCB is revising its protocol to routinely capture these outcomes.

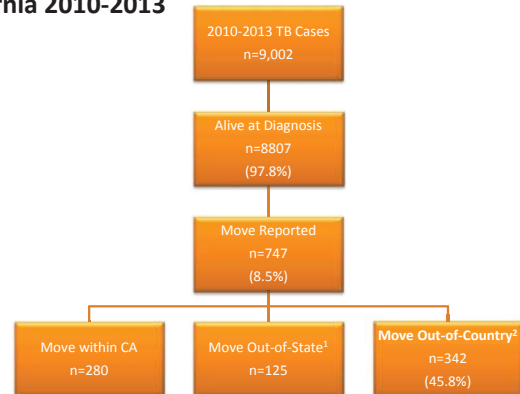
## Objectives

- Describe California TB patients who move out-of-country
- Introduce a protocol for obtaining treatment outcomes for these patients

## Methods

- We analyzed 2010-2013 TB Registry data for patients that were alive at diagnosis and reported a move out of the country on the Follow-up 2 (FU2) of the RVCT.
- A case that moved out-of-country was defined as a case that moved to another country during, or prior to initiating, treatment, regardless of other moves reported.
- Date of move was defined as the date therapy was stopped.

**Figure 1: Counted TB Cases with a move out-of-country reported, California 2010-2013**



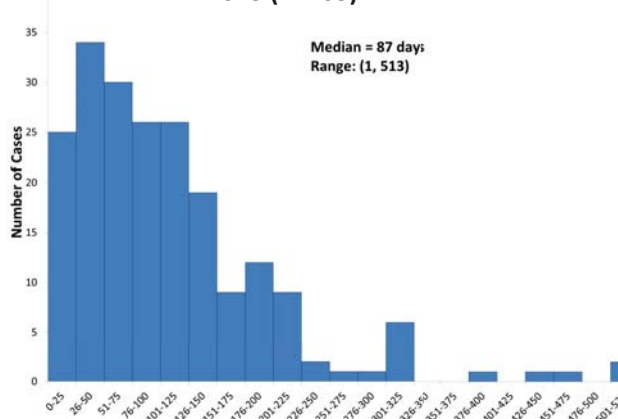
1. Includes 1 case for which a move within CA also reported  
2. Includes 12 cases for which a move within the U.S. was also reported

## Results

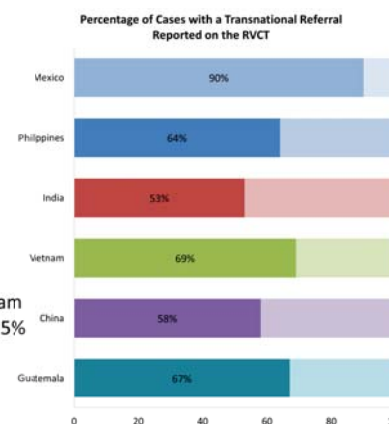
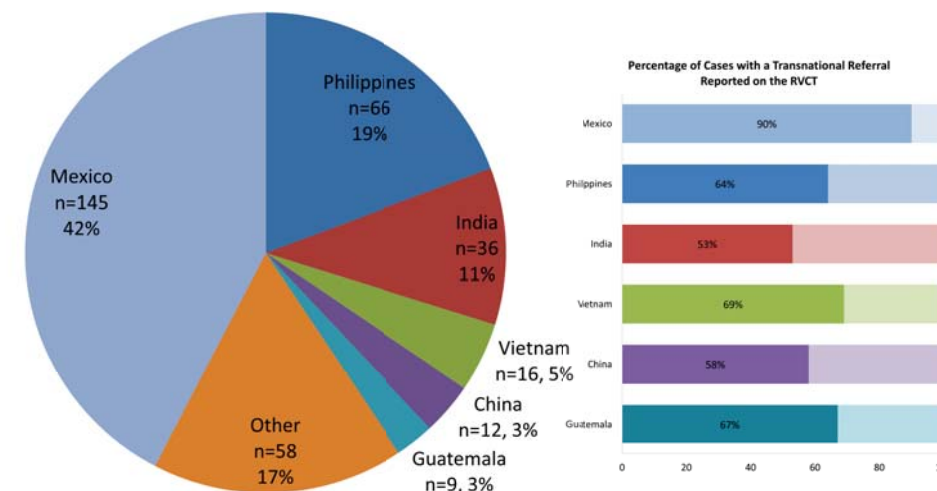
**Table 1: Characteristics of TB patients with a move out-of-country reported, California 2010-2013**

Characteristic	n(%)
Cases moved out-of-country	342
Male	224 (65.5)
Race/Ethnicity	
White	22 (6.4)
Black	5 (1.5)
Hispanic	164 (48.0)
Asian	150 (43.9)
Multi-race	1 (0.3)
Median age at report, years, (range)	51, (0, 93)
Foreign-born	313 /339 (92.3)
Immigration Status	
Immigrant Visa	105 /313 (33.6)
Student, Employment	22 /313 (7.0)
Tourist Visa	26 /313 (8.3)
Family/Fiance, Refugee, Asylee or Parolee	9 /313 (2.9)
Other status (incl. undocumented)	103 /313 (32.9)
Unknown	48 /313 (15.3)
HIV-positive (of those tested)	16 /202 (7.9)
Correctional facility resident at diagnosis	49 /339 (14.5)
Under custody of Immigration & Customs Enforcement (ICE)	38 /49 (77.6)
Homeless within past year	22 /342 (6.4)
Injecting or non-injecting drug use or excess alcohol use within the past year	48 /342 (14.0)
Treatment initiated prior to move	320 /342 (93.6)
Sputum culture conversion prior to move	108 /157 (68.8)
Unknown treatment outcome on RVCT (all)	224 /342 (65.5)
Mexico	77 /145 (53.1)
Philippines	53 /66 (80.3)
India	25 /36 (69.4)
Vietnam	12 /16 (75.0)
China	6 /12 (50.0)

**Figure 3: Days on treatment prior to out-of-country move, California 2011-2013 (n=205)**



**Figure 2: Destination countries of patients with a move out-of-country, California 2010-2013**



### Transnational Referral Organizations



#### CureTB

**Countries:** Mexico, Latin America & Canada  
**Website:** curetb.org  
**Tel:** (619) 542-4013  
**E-mail:** curetb.hhsa@sdcounty.ca.gov  
**Fax:** (619) 692-8020



#### TBNet

**Countries:** All other countries  
**Website:** migrantclinician.org/services/network/tbnet  
**Tel:** (800) 825-8205  
**E-mail:** rgaray@migrantclinician.org  
**Fax:** (512) 327-6140

## Conclusions

- During 2010-2013, 8.5% of TB patients moved to a different reporting jurisdiction prior to completing treatment. Of those, 45.8% moved out of the country, with those in ICE custody presumably deported.
- Most were started on treatment and had an unknown treatment outcome on the RVCT.
- In order to assess and encourage continuity of care for these patients, they should be referred to transnational referral organizations and follow-up should be conducted to obtain and report treatment outcomes.
- Systematic reporting of outcomes will have a positive impact on TB funding in California.

## Limitations

- Because TBCB has not previously requested reporting of out-of-country outcomes, we cannot accurately capture outcomes LHJs may have received.
- This analysis relies on RVCT data. The proportion of cases referred to transnational organizations may be an underestimate of total referrals.

## Protocol & Next Steps

- TBCB will provide informational sessions for LHJs on CureTB & TBNet and training on how to complete the FU2 for patients that move out-of-country.
- LHJs should continue to refer patients to transnational organizations and report the referral on the FU2, with a comment specifying to which organization a patient was referred.
- TBCB will work with CureTB and TBNet to ascertain outcome data that will be shared with LHJs. Documented outcome information should be entered into the California Reportable Disease Information Exchange (CaREDIE).

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