

TUBERCULOSIS IN COLORADO 2015

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SUMMARY

In the state of Colorado, 73 persons were diagnosed with active tuberculosis (TB) disease during the 2015 calendar year, increased from the 64 that were reported in 2014. The largest change among demographic groups, was among the White non-Hispanic population (from 7 in 2014 to 11 in 2015). Birth in one of the 22 countries with highest TB burden (accounting for 79% of all active TB disease worldwide) remains the strongest risk factor for developing active TB disease (40% of all patients in 2015) followed by diabetes (16%) (Table 2 and Figure 14).

Eighteen (28%) of the state's 64 counties reported at least one person with active TB disease in 2015. There were 17 new patients reported in Denver, the most of any single Colorado county. Tri-County Health Department comprised of Adams, Arapahoe, and Douglas counties reported 29 patients with TB in 2015 and Boulder County reported five. Forty of Colorado's 64 counties have reported at least one new patient with active TB in the past ten years (2006-2015) (Table 1).

The overall case rate for active TB disease in Colorado in 2015 increased to 1.3 per 100,000 persons from 1.2 per 100,000 persons in 2014. The U.S. case rate is 3.0 per 100,000 persons according to the March 2015 TB report from the Centers for Disease Control and Prevention (CDC) (Figure 2). In 2015, the TB case rate in the foreign-born population living in Colorado was 10.9 per 100,000 persons, which is 36 times higher than that of the U.S.-born population of 0.3 per 100,000 persons (Figure 6). This disparity is greater in Colorado when compared to the U.S. overall. In 2015 TB burden in Colorado remained highest among racial and ethnic minorities (Figure 5), which is consistent with national observations.

In 2015, TB was reported among people ranging from 1 to 91 years of age with an average age of 48 years. The largest percentage (29%) occurred in the 45-64 year age group and the smallest percentage (7%) in the 15-24 year age group. Ten percent of patients were children with TB (<15 years of age) in 2015. Active TB in children is particularly concerning, as it indicates ongoing transmission in the community as well as evidence of missed opportunities for prevention. Of those seven children, five were younger than five years of age (Figure 9).

In 2015, 59% of new TB patients were male and 41% were female (Figure 11). The number of cases in females has remained relatively consistent over the last 6 years whereas cases in males have fluctuated.

Drug susceptibility testing is recommended for all culture-positive TB cases in the U.S. In 2015, all 49 patients with culture-positive TB had drug susceptibility results. Seven (14%) of the 49 patients were resistant to one or more first-line drugs (isoniazid-INH, rifampin-RIF, pyrazinamide-PZA, ethambutol-EMB). None were multi-drug resistant (MDR) TB (defined as being resistant to at least INH and RIF) and there was no extensively drug resistant (XDR) TB identified in 2015 (Figure 16).

Due to the length of time it takes to complete TB drug treatment, completion rates are pending for 2015. Of the 64 TB patients reported in 2014, (the most recent year where final completion data are available), four patients died during treatment. Of the remaining 60, 59 (98%) completed treatment

and one moved out of the U.S. (completion data not available) (Figure 18 and Figure 19). All new patients counted in 2015 have initiated treatment.

TB disease incidence remains steady over the past five years in Colorado. Given recent trends and successes, the Colorado Department of Public Health and Environment, local public health agencies and other TB stakeholders and partners throughout the state have collaborated to draft a 10-year TB elimination plan in efforts to reduce the burden of TB in Colorado. This plan will guide programming meant to support persons and populations at increased risk for developing TB disease to “know their TB status” while increasing public and private provider capacity to screen for and test those at-risk for both TB infection and onward progression to TB disease.

A key strategy toward the elimination of TB is to identify and treat persons with TB infection and high risk of developing active disease in the future. Through timely evaluation of persons identified as contacts to an infectious TB case and in those who arrive in Colorado with a Class B TB designation, additional cases of active TB disease are identified and treated, and those diagnosed with TB infection have the opportunity to be treated as well, thus preventing future active disease.

The TB elimination plan will be available on the TB Program website summer of 2016 <https://www.colorado.gov/cdphe/tuberculosis>

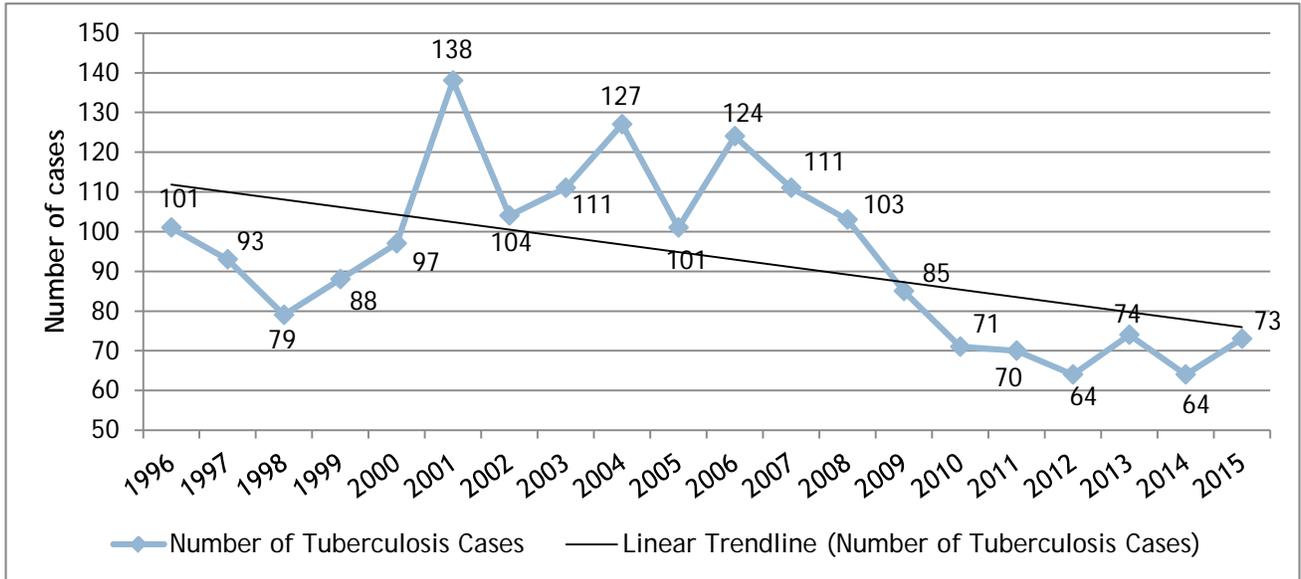
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TB Cases and Rates

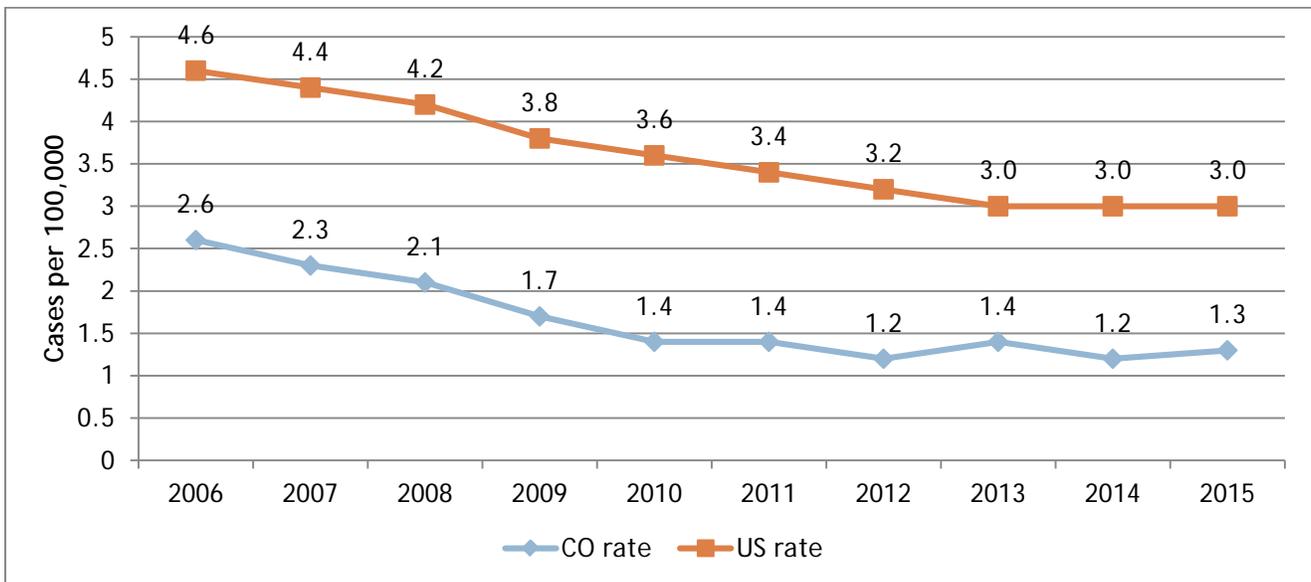
In 2015, 73 persons were diagnosed and reported with active tuberculosis disease (TB) in Colorado. Although the number of cases has shown a steady decline since 2007, there has been fluctuation in the past three years. Overall, the number of cases is trending down in Colorado.

Figure 1. Number of TB Cases and Trend Line: Colorado 1996-2015



Colorado’s case rate dropped from 2.6 per 100,000 persons in 2006 to 1.2 per 100,000 persons in 2014. The case rate increased to 1.3 per 100,000 persons in 2015.

Figure 2. Case Rates per 100,000 Persons in the U.S. and Colorado 2006 - 2015

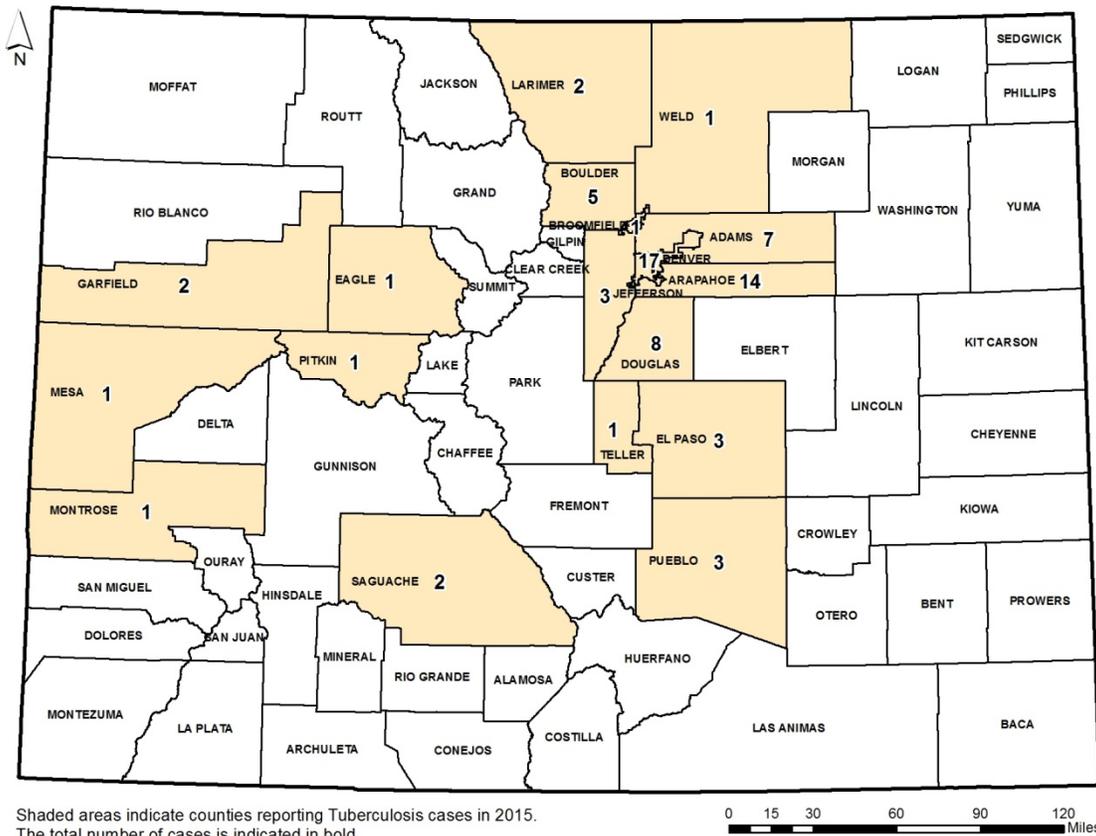


TB by County

Eighteen of Colorado’s 64 counties reported a new person with active TB disease in 2015. Denver County consistently reports the most with 17; this is followed by Arapahoe (14), Douglas (8), and Adams (7) counties (Figure 3). Forty of Colorado’s 64 counties have reported at least one new person with active TB in the past ten years (Table 1).

Figure 3.

2015 Tuberculosis Cases by County, State of Colorado



Shaded areas indicate counties reporting Tuberculosis cases in 2015. The total number of cases is indicated in bold.

0 15 30 60 90 120 Miles

Table 1. TB in Colorado: Cases by County and Year of Report 2006-2015

| County ^a | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 ^b | 5-Year Case Rate 2011-2015 ^{cd} |
|---------------------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-------------------|--|
| Adams | 17 | 14 | 14 | 4 | 7 | 12 | 7 | 7 | 7 | 7 | 1.7 |
| Arapahoe | 22 | 17 | 14 | 11 | 17 | 5 | 11 | 14 | 14 | 14 | 1.9 |
| Archuleta | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1.6 |
| Baca | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 5.4 |
| Bent | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Boulder | 7 | 5 | 7 | 3 | 0 | 5 | 9 | 6 | 3 | 5 | 1.8 |
| Broomfield | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0.7 |
| Clear Creek | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Conejos | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Delta | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Denver | 40 | 37 | 24 | 29 | 23 | 21 | 10 | 21 | 23 | 17 | 2.8 |
| Douglas | 1 | 2 | 3 | 4 | 1 | 2 | 1 | 2 | 1 | 8 | 0.9 |
| Eagle | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 1.9 |
| El Paso | 10 | 7 | 10 | 7 | 8 | 7 | 5 | 8 | 1 | 3 | 0.7 |
| Fremont | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Garfield | 2 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 1.0 |
| Grand | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Gunnison | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Huerfano | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jefferson | 5 | 9 | 12 | 8 | 0 | 8 | 3 | 2 | 4 | 3 | 0.7 |
| Kit Carson | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| La Plata | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0.4 |
| Lake | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Larimer | 4 | 2 | 3 | 2 | 5 | 2 | 4 | 3 | 1 | 2 | 0.8 |
| Las Animas | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Logan | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.9 |
| Mesa | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 1 | 0.7 |
| Montezuma | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Montrose | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.5 |
| Morgan | 0 | 2 | 1 | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 2.8 |
| Otero | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Pitkin | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2.3 |
| Prowers | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3.2 |
| Pueblo | 2 | 4 | 3 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 1.1 |
| Rio Grande | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Saguache | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 9.5 |
| Summit | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0.7 |
| Teller | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1.7 |
| Weld | 5 | 1 | 3 | 2 | 2 | 4 | 7 | 0 | 3 | 1 | 1.1 |
| Yuma | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2.0 |
| TOTAL | 124 | 111 | 103 | 85 | 71 | 70 | 64 | 74 | 64 | 73 | 1.3 |

^aOnly counties reporting an active case of TB (2006-2015) are included.

^b Highlighted counties reported at least one case of active TB in 2015.

^cTB cases per 100,000 persons

^d Population data for determining the case rates throughout this report are from the Colorado Division of Local Government, State Demography Office.

Table 2. Demographic Comparison of 2014 and 2015 Active TB Cases

| | 2014 | | 2015 | |
|---|-----------|------------|-----------|------------|
| | n | % | n | % |
| Age Group (years) | | | | |
| <15 | 2 | 3.1 | 7 | 9.6 |
| 15-24 | 7 | 10.9 | 5 | 6.8 |
| 25-44 | 18 | 28.1 | 20 | 27.4 |
| 45-64 | 19 | 29.7 | 21 | 28.8 |
| 65+ | 18 | 28.1 | 20 | 27.4 |
| TOTAL | 64 | 100 | 73 | 100 |
| Gender | | | | |
| Male | 33 | 51.6 | 43 | 58.9 |
| Female | 31 | 48.4 | 30 | 41.1 |
| TOTAL | 64 | 100 | 73 | 100 |
| Race/Ethnicity | | | | |
| White | 7 | 10.9 | 11 | 15.1 |
| Black | 16 | 25.0 | 14 | 19.2 |
| Hispanic | 16 | 25.0 | 22 | 30.1 |
| American Indian/Alaska Native | 0 | 0 | 0 | 0 |
| Asian/Pacific Islander | 25 | 39.0 | 25 | 34.2 |
| Multiple race/Unknown | 0 | 0 | 1 | 1.4 |
| TOTAL | 64 | 100 | 73 | 100 |
| Region | | | | |
| Denver-metro ^a | 52 | 81.3 | 55 | 75.3 |
| Outside Denver-metro | 12 | 18.7 | 18 | 24.7 |
| TOTAL | 64 | 100 | 73 | 100 |
| Country of Origin (U.S.- vs. Foreign-born) | | | | |
| United States | 11 | 17.2 | 15 | 20.5 |
| Mexico | 14 | 21.9 | 14 | 19.2 |
| Other countries | 39 | 60.9 | 44 | 60.3 |
| TOTAL | 64 | 100 | 73 | 100 |
| HIV Status | | | | |
| HIV Negative | 63 | 98.4 | 67 | 91.8 |
| HIV Positive | 0 | 0 | 3 | 4.1 |
| Testing done, results unknown | 0 | 0 | 0 | 0 |
| Refused testing | 0 | 0 | 2 | 2.7 |
| Not offered | 1 | 1.6 | 1 | 1.4 |
| TOTAL | 64 | 100 | 73 | 100 |
| Risk factors^b | | | | |
| Birth in one of the 22 highest TB-burden countries ^c | 23 | 35.9 | 29 | 39.7 |
| Homeless within past year | 1 | 1.6 | 1 | 1.4 |
| Diabetes | 12 | 18.7 | 12 | 16.4 |
| Resident of correctional facility at diagnosis | 0 | 0 | 0 | 0 |
| Resident of long-term care facility | 1 | 1.6 | 1 | 1.4 |
| Injected drug use within past year | 1 | 1.6 | 0 | 0 |
| Non-injected drug use within past year | 1 | 1.6 | 1 | 1.4 |
| Excess alcohol use within past year | 3 | 4.7 | 3 | 4.1 |
| Health care worker within past year | 4 | 6.2 | 3 | 4.1 |

Note: percentages may not equal 100 due to rounding.

a. Denver metro includes: Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas and Jefferson counties.

b. A case may have more than one risk factor indicated.

c. According to the World Health Organization's definition of 22 highest-burden countries

http://www.who.int/tb/publications/global_report/2007/annex_1_download/en/index.html

Thirteen counties (20% of all counties) have an average case rate equal to or greater than the average state case rate of 1.3 per 100,000 persons over the same five-year period.

TB by Race/Ethnicity

The number of reported persons with TB in Colorado for the last decade has been highest among racial and ethnic minorities. Though comprising only 31% of the state's population, 83% of new TB occurred in racial and ethnic minority populations (Figure 4). At 4.2 cases per 100,000 persons the case rates in racial and ethnic minorities is 14 times that of the majority White population (Figure 5).

Figure 4. TB Cases by Race/Ethnicity: Colorado, 2015

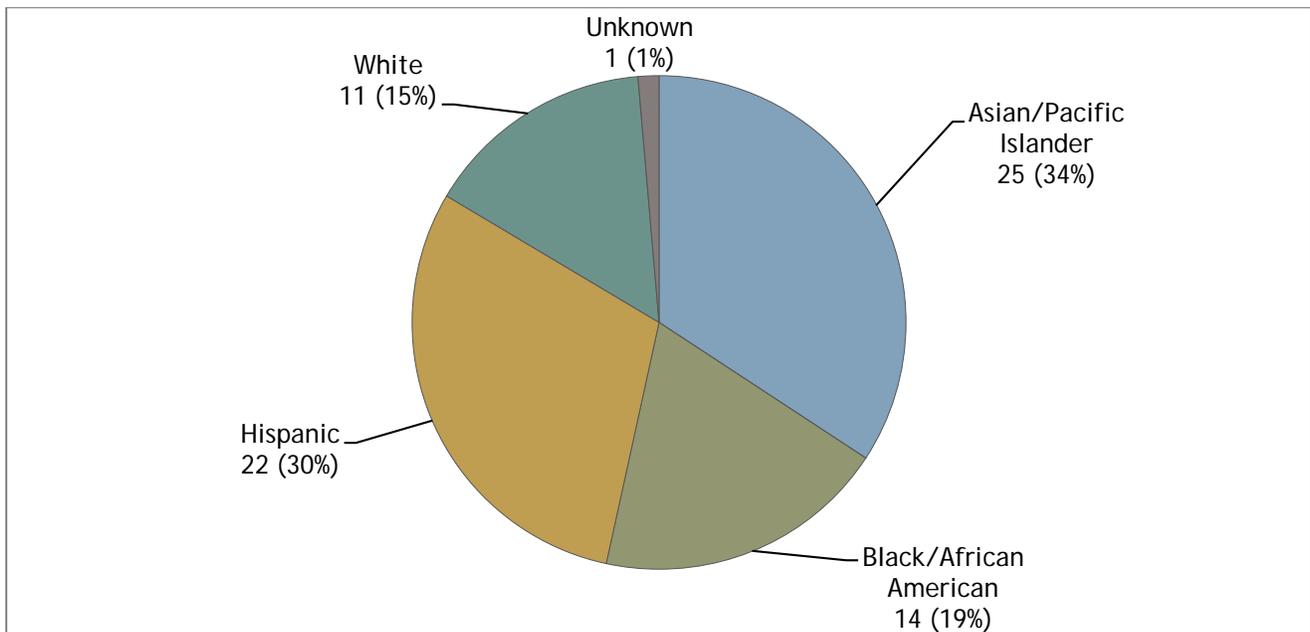
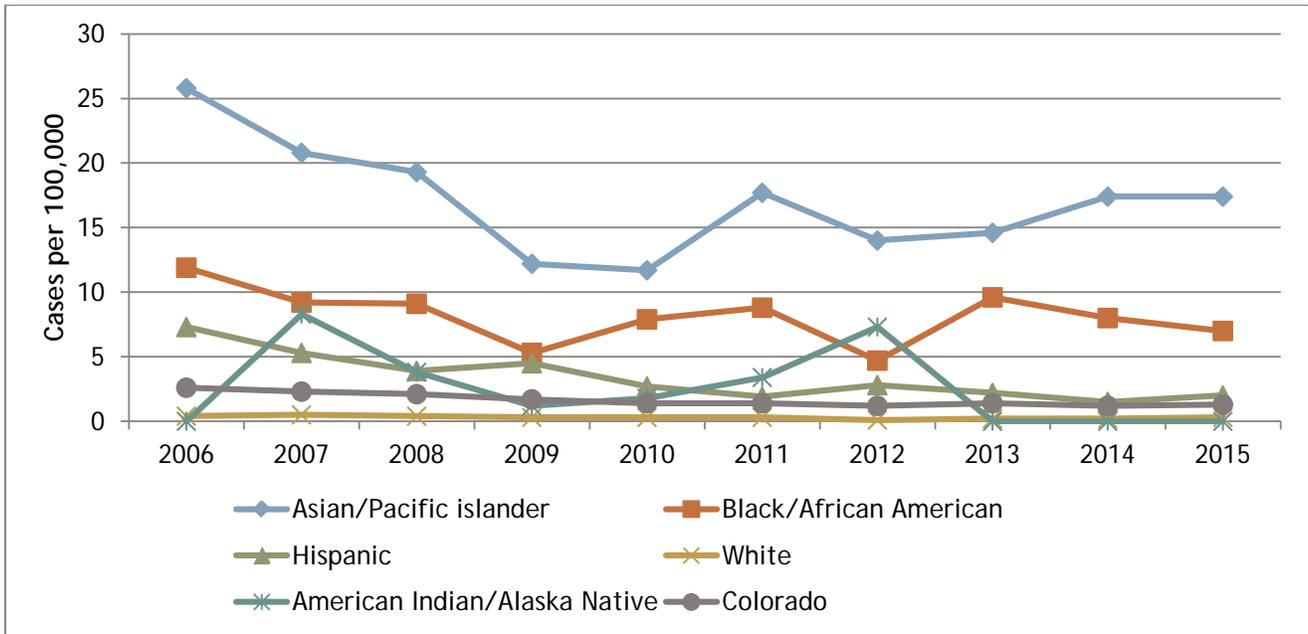


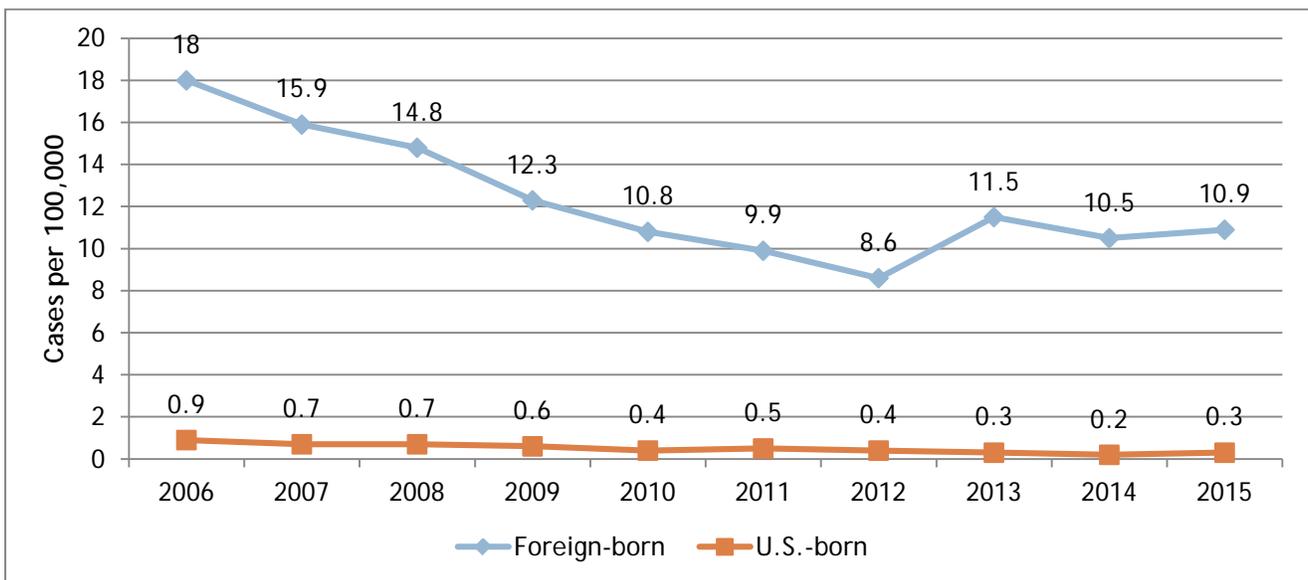
Figure 5. TB Case Rates by Race/Ethnicity: Colorado, 2006 - 2015



TB by Nativity

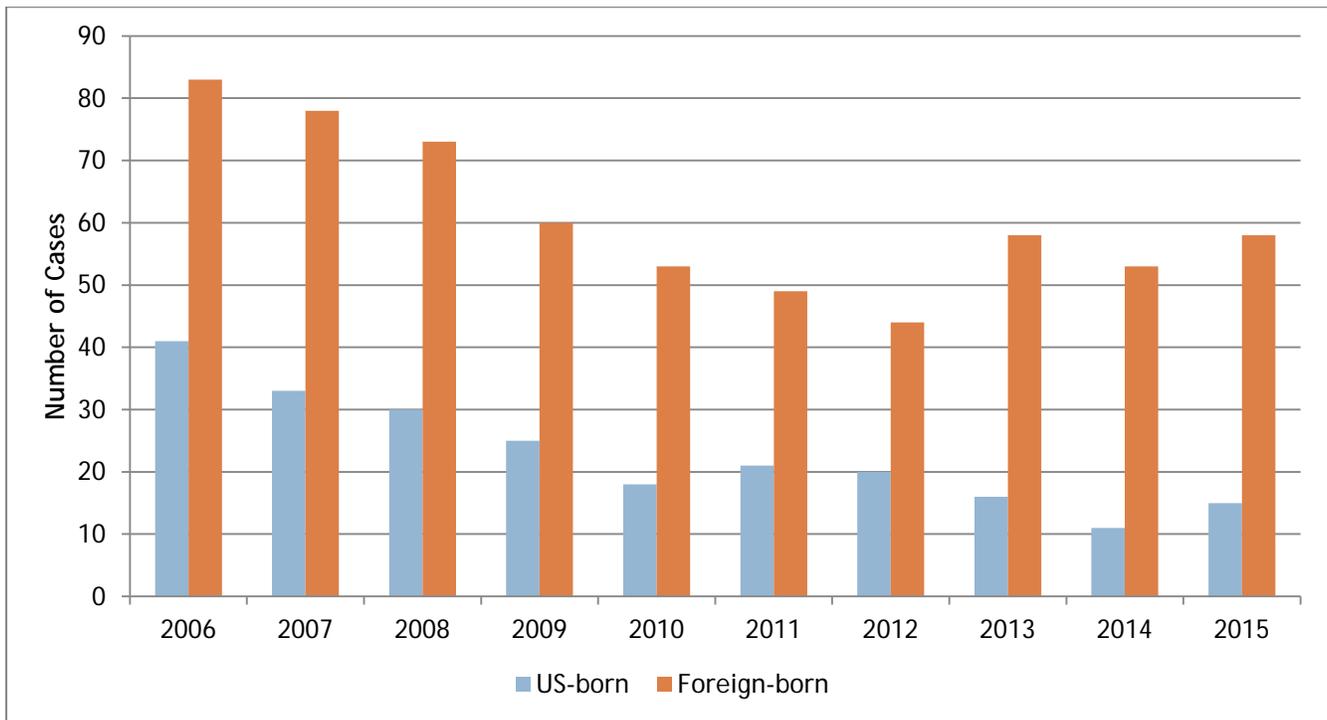
In 2015, the TB case rate in the foreign-born population living in Colorado was 10.9 per 100,000 persons, which is 36 times higher than that of the U.S.-born population (0.3 per 100,000).

Figure 6. TB Case Rates in Foreign-born and U.S.-born Persons: Colorado 2006-2015



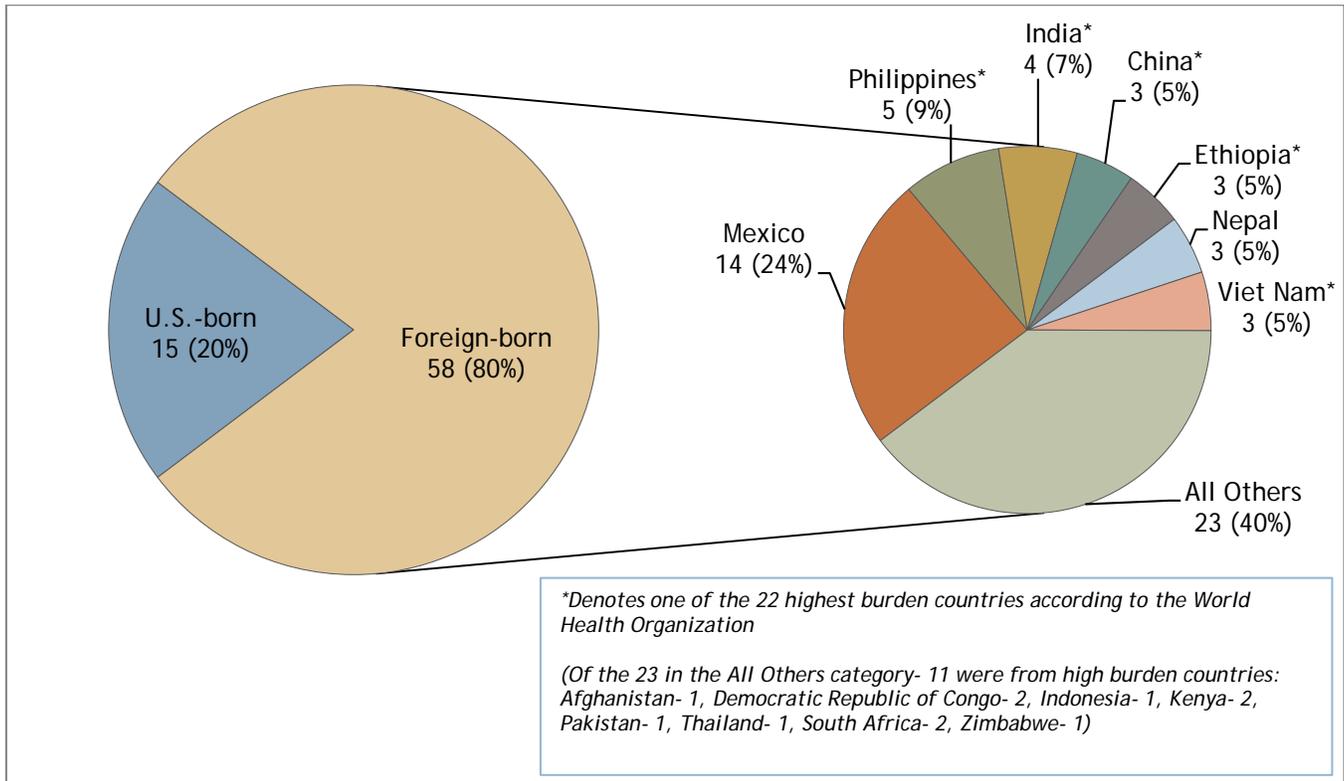
In 2015, 58 foreign-born persons with TB disease were reported in Colorado. While less than 10% of Colorado’s population is foreign-born, foreign-born persons made up almost 80% of all TB reported in the state in 2015 (Figure 7).

Figure 7. TB Cases in Foreign-born and U.S.-born Persons: Colorado, 2006-2015



The 58 foreign-born persons with TB disease originated from 26 different countries. The largest single foreign-born cohort, as is the case each year, came from Mexico with 14 persons. Of those foreign-born persons, 29 (50% of the foreign-born cohort) came from one of the top 22 highest-burdened countries that comprise 80% of all global active TB disease according to the World Health Organization (Figure 8).

Figure 8. TB Cases by Country of Origin: Colorado, 2015



Tuberculosis by Age Group

In 2015, TB was reported among people ranging from 1 to 91 years of age. Twenty-nine percent of TB occurred among people 45-64 years old, followed by those aged 65+ years (28%) and 25-44 years (28%). Seven new TB patients were children (<15 years of age). Active TB in children is particularly concerning, as it is a sign of recent transmission and missed opportunities for TB prevention. Of those seven children, five were younger than five years of age. Four children were U.S. born and three were foreign-born (Figure 9 and Figure 10).

Figure 9. TB Cases by Age Group: Colorado 2015

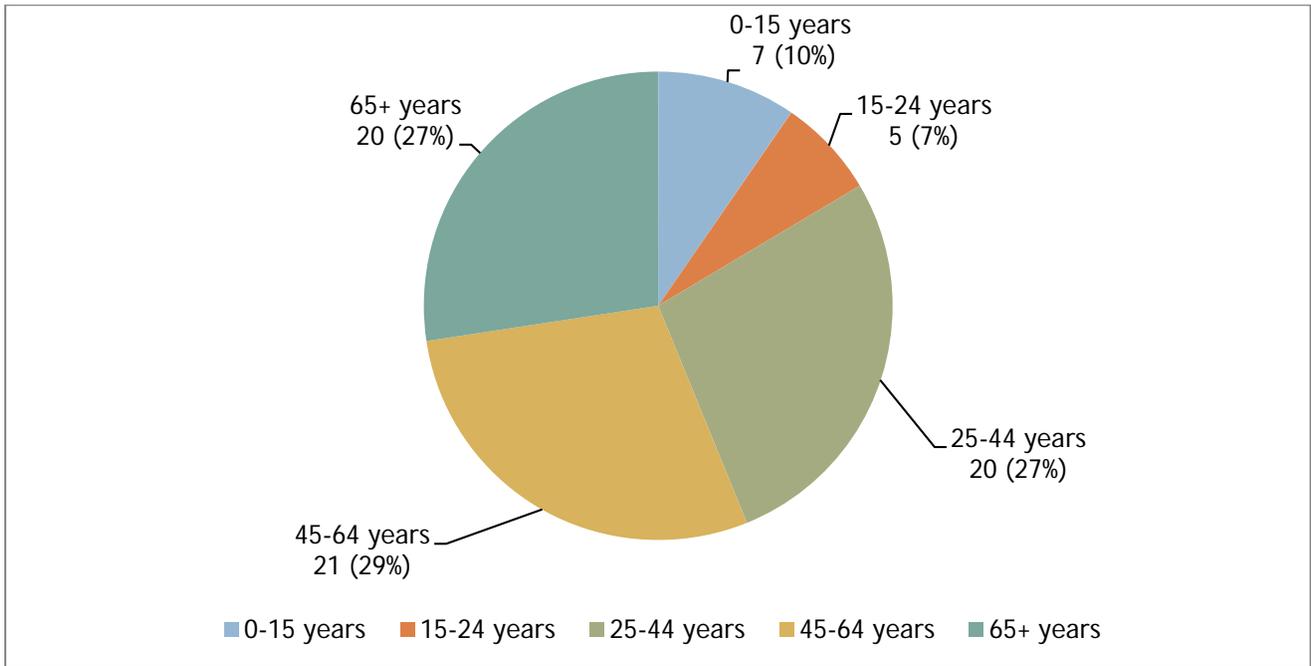
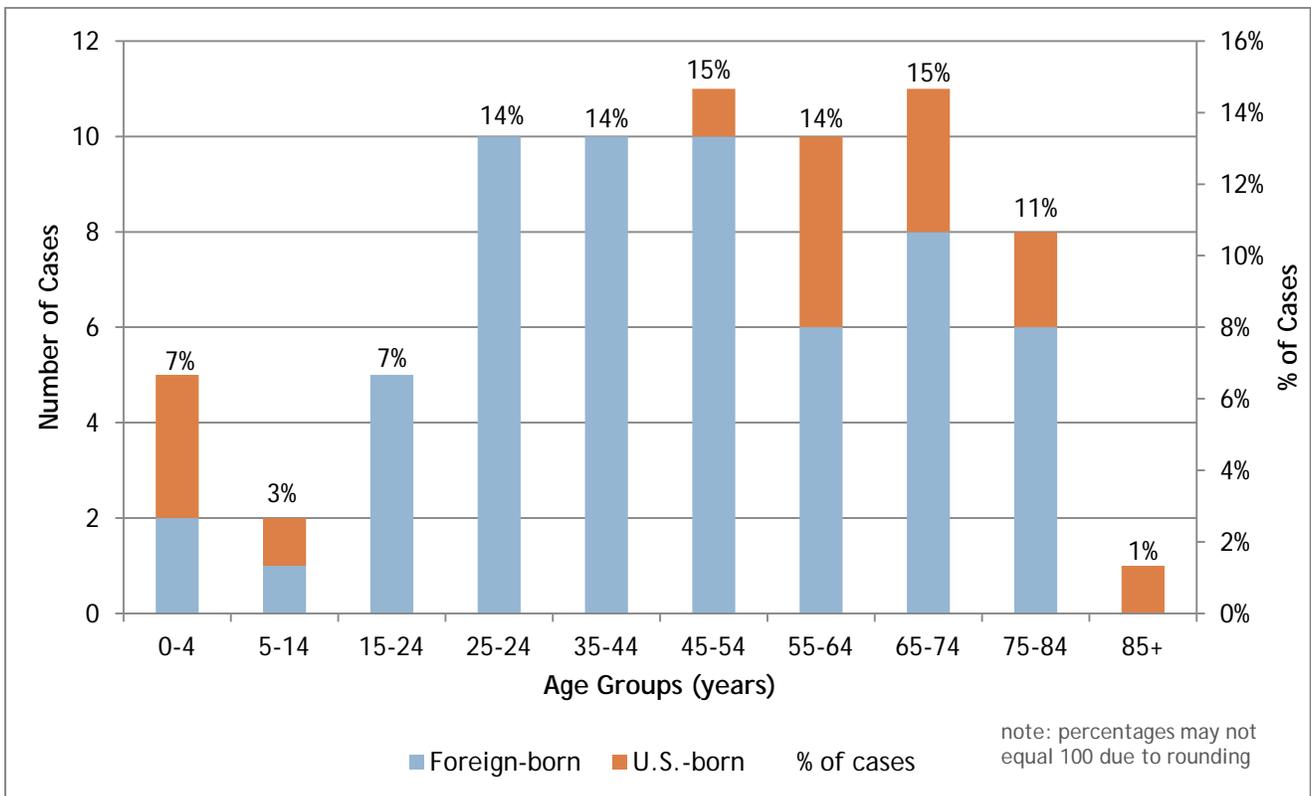


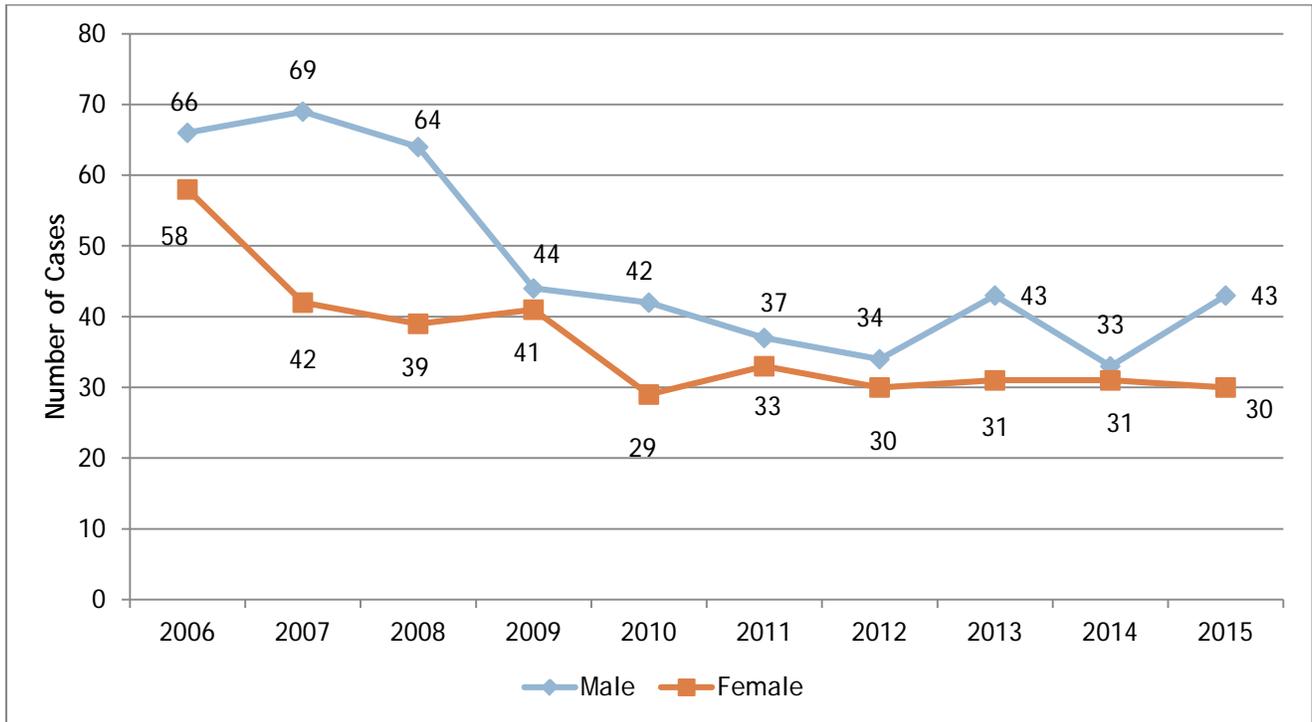
Figure 10. TB Cases by Age Group and Nativity: Colorado 2015



Tuberculosis by Gender

Tuberculosis tends to infect and lead to active TB disease in males more often than females. In 2015, 43 (59%) TB patients were male and 30 (41%) were female.

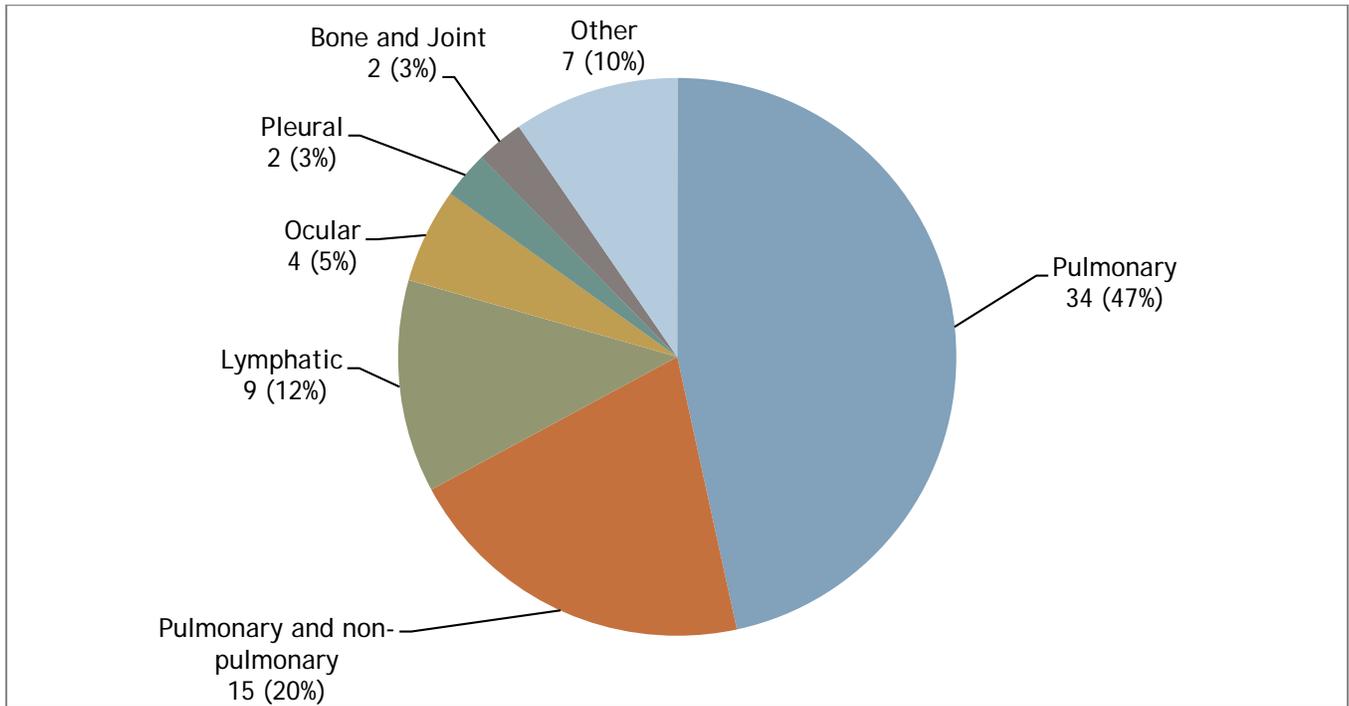
Figure 11. TB Cases by Gender: Colorado 2006 - 2015



Tuberculosis Cases by Major Site of Disease

Tuberculosis most often attacks the lungs (pulmonary TB), but may also affect any part of the body (extra-pulmonary TB). In 2015, 49 of the 73 (67%) patients were found to have pulmonary or both a pulmonary and extra-pulmonary site of disease. The next most common site of infection in 2015 was lymphatic TB with 9 (12%) incidents. Sites classified as other included meningeal, genitourinary, peritoneal, hepatic, abdominal and epidermal (Figure 12).

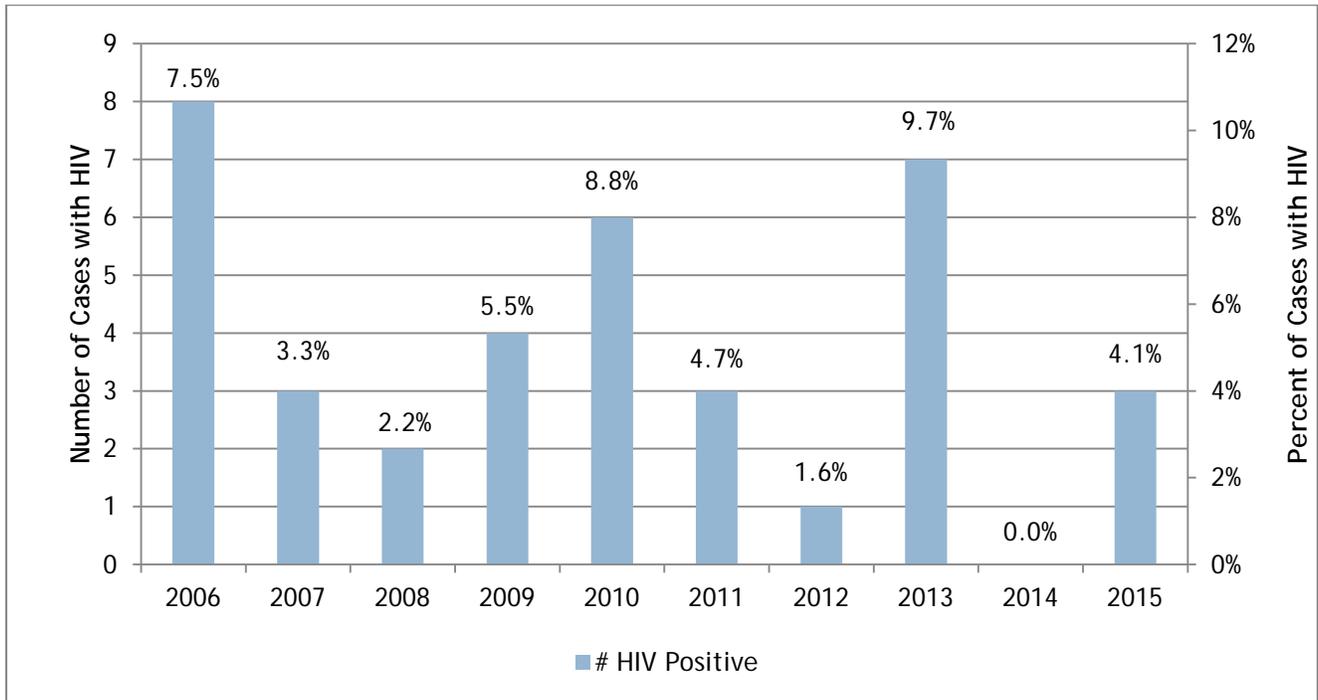
Figure 12. TB Cases by Major Site of Disease: Colorado 2015



HIV Co-infection

Worldwide, one in four people with HIV who die of AIDS-defining conditions do so as a result of TB disease. HIV-infected people with TB infection are at higher risk of active TB since HIV weakens the immune system, greatly increasing the likelihood of progression from TB infection to active TB disease. Of the 73 persons with TB in 2015, recent test results for HIV were available for 70 (96% of total). Of those 70, three (4.3%) were found to be co-infected with HIV. One patient was not offered an HIV test and two others refused testing (Figure 13). Over the past 10 years, HIV/TB co-infection has fluctuated between eight cases in 2006 to no cases in 2014.

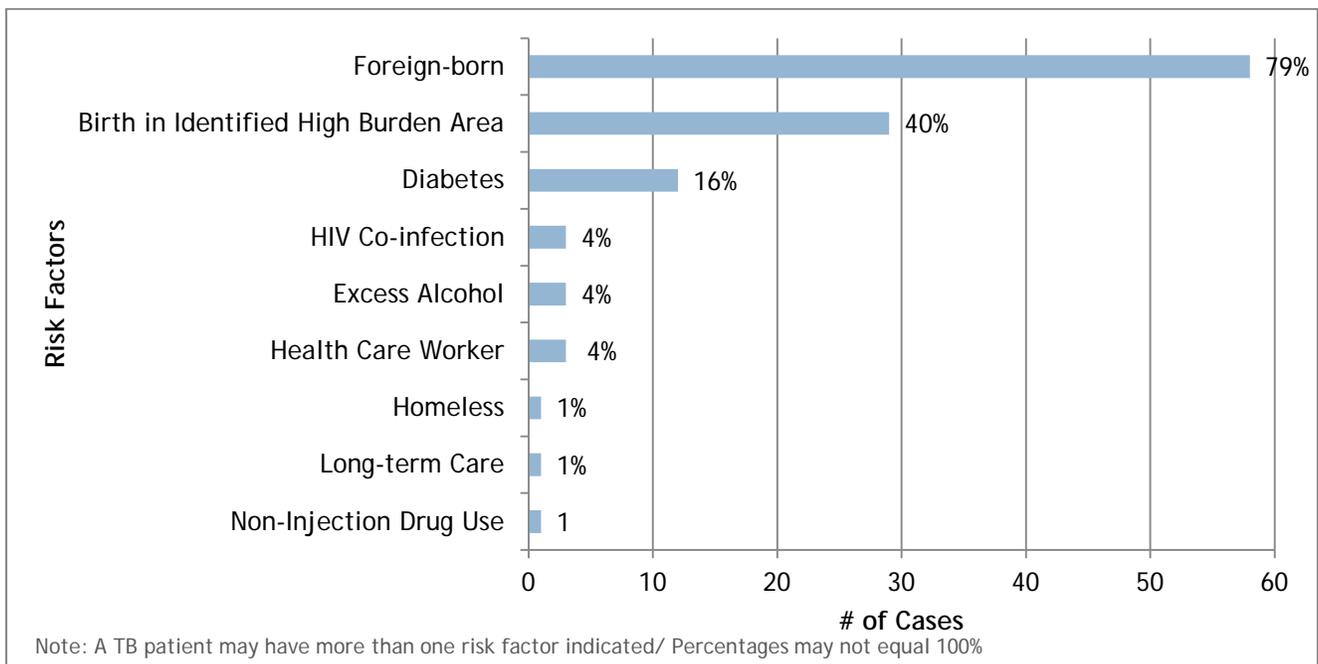
Figure 13. HIV-Positive TB Cases and Percentage of Annual Total: Colorado 2006-2015



Risk Factors

In 2015, the most common risk factor for active TB was birth in a country outside the U.S. followed by diabetes.

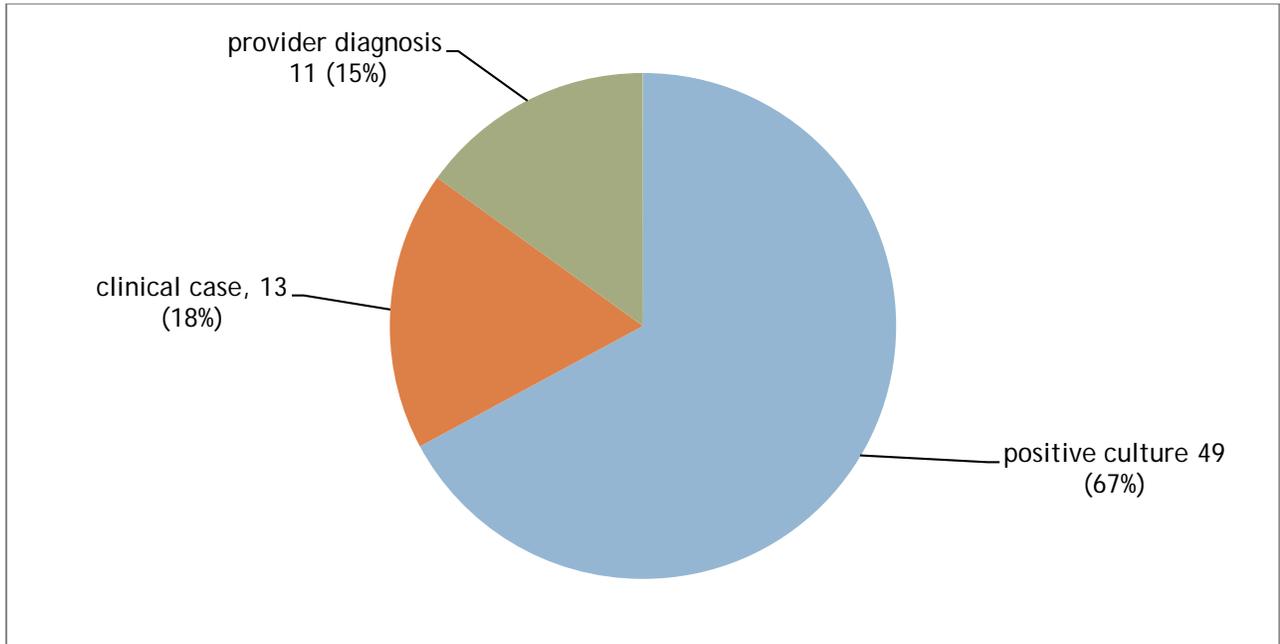
Figure 14. Risk Factors for TB: Colorado 2015



Tuberculosis Case Verification

Mycobacterium tuberculosis complex was culture-positive in 67% of the TB patients in 2015. Another 18% met the clinical case definition (positive tuberculin skin test or interferon gamma release assay, abnormal chest radiograph), and 15% were verified by provider diagnosis.

Figure 15. TB Cases by Verification Criteria: Colorado 2015



Drug Resistance and Tuberculosis

Of the 73 new TB patients reported in 2015, 49 (67%) had a positive culture and of those 49, seven (14%) were resistant to one or more of the four first-line TB drugs: isoniazid (INH), rifampin (RIF), pyrazinamide (PZA) and ethambutol (EMB). There was no multi-drug resistant (MDR) or extensively-drug resistant TB (XDR-TB) identified in 2015 (Figure 16).

Figure 16. TB Drug Resistance: Colorado 2006-2015

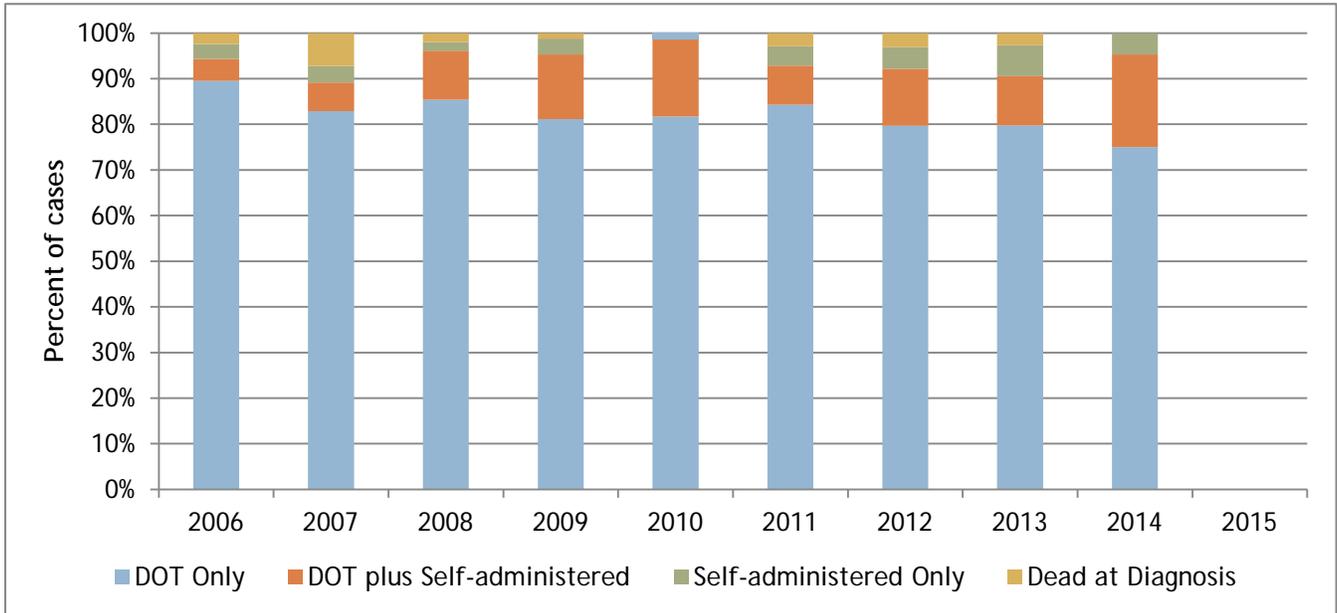


*Isolates with PZA resistance may indicate *Mycobacterium Bovis*, a form of tuberculosis, which causes tuberculosis in humans, cattle, and mammals. It is characteristically resistant to PZA.

Directly Observed Therapy

Directly observed therapy (DOT) is required for all patients with pulmonary TB in Colorado and involves health care workers observing the patient taking every dose of his/her medications. During 2014 (the most recent year with complete data), 75% of patients received medications via DOT, 5% self-administered medications and 20% received both DOT and self-administered therapy (Figure 17).

Figure 17. Mode of TB Therapy: Colorado 2006-2015



Tuberculosis Treatment Outcomes

The standard treatment for active TB disease is six months using isoniazid, rifampin, ethambutol and pyrazinamide. Of the 64 patients in 2014, (the most recent year with complete data), four patients died during treatment. Of the remaining 60 eligible TB patients, 59 completed treatment and one moved outside the U.S. before treatment completion (completion data unavailable). All 2015 patients have initiated treatment.

Figure 18. TB Treatment Outcomes: Colorado 2014

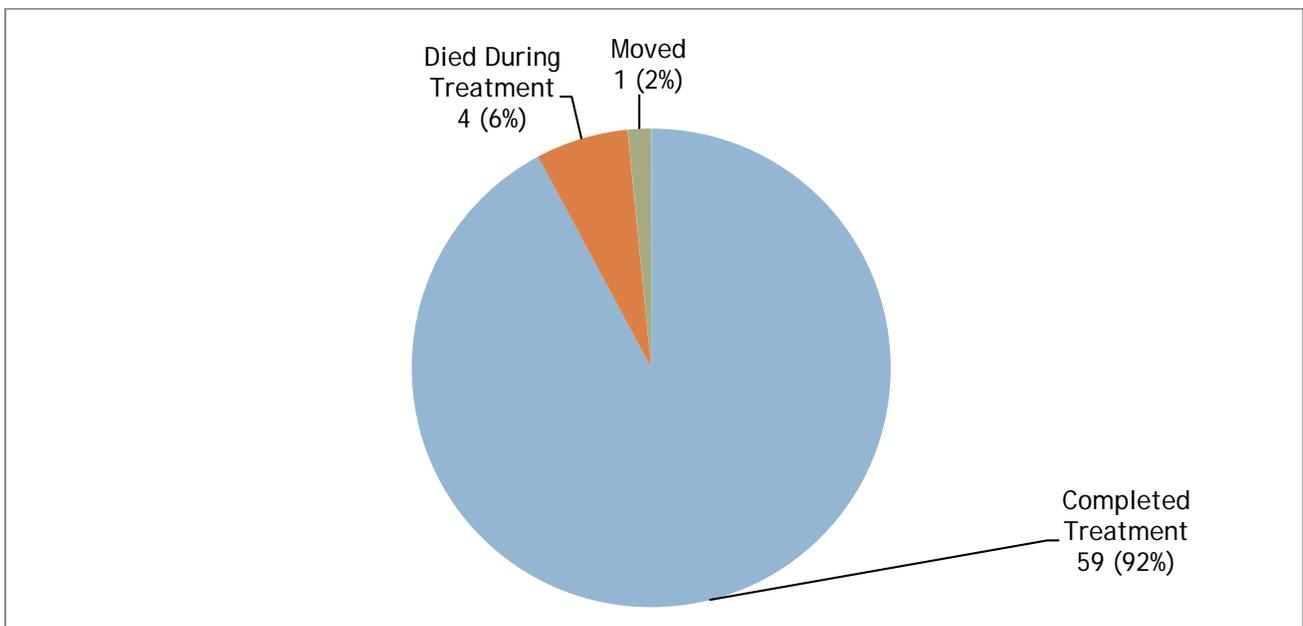
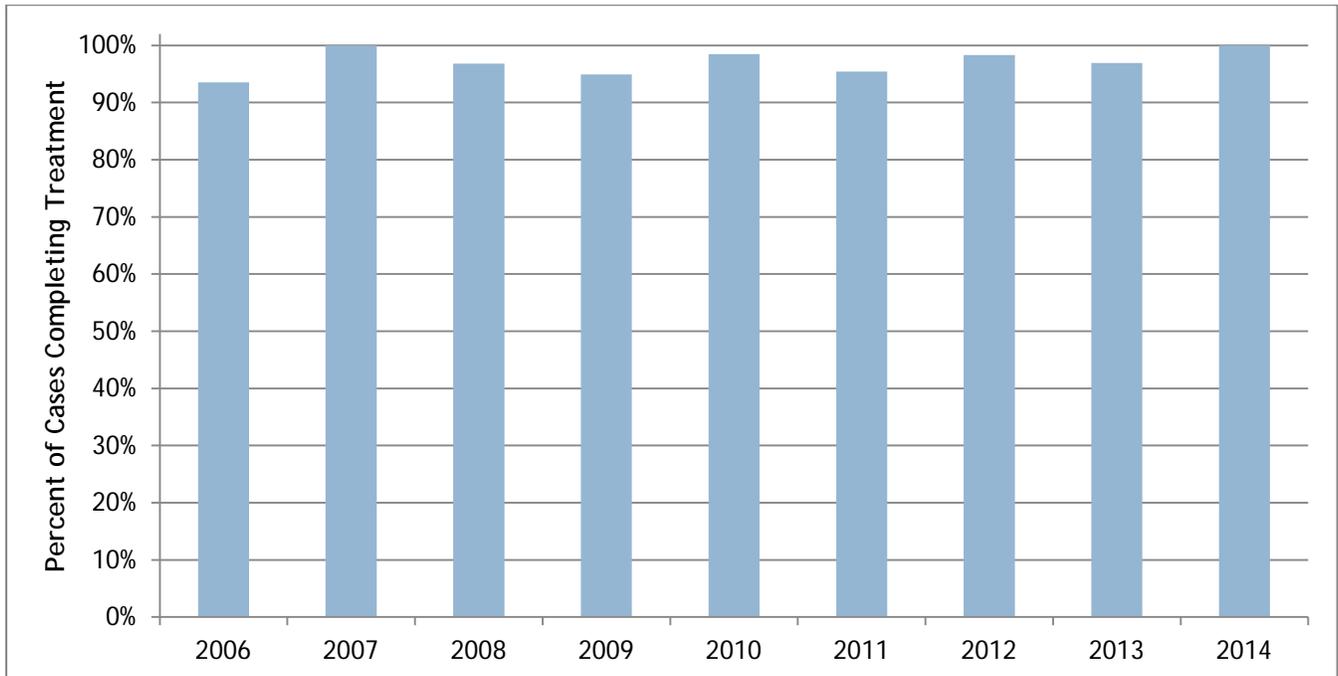


Figure 19. Completion of TB Treatment within One Year: Colorado 2006-2014



Note: Excludes cases with rifampin resistant disease, cases with meningeal, bone and/or joint, or central nervous system disease, cases less than 15 years of age with disseminated tuberculosis disease, and cases that died less than one year after treatment initiation or moved out of the country.

Contact Investigations

It is a public health responsibility to conduct contact investigations on all infectious (pulmonary and laryngeal) TB. Approximately 1% of all TB contacts have TB disease at the time of the contact investigation and are in need of treatment. Additionally, about 15% to 25% of TB contacts are infected with *M. tuberculosis* and are at risk for developing TB disease if not diagnosed and treated for TB infection. In 2014, 29 sputum smear-positive or sputum smear-negative/culture-positive active TB patients yielded 385 contacts. As a result of these investigations, three additional persons with TB disease and 55 persons with TB infection were identified. Preliminary data indicates that of those 55 with TB infection, 48 have started treatment (87%) and 40 of those patients (83%) completed treatment. Final treatment data for 2014 will be available in August of 2016 (Table 3).

Table 3. Follow-up and Treatment for Contacts to Infectious TB Cases: Colorado 2010-2014

| | 2010 | 2011 | 2012 | 2013 | 2014 ^a |
|---|-----------|-----------|------------|-----------|-------------------|
| Number of sputum-smear or culture-positive cases | 34 | 38 | 32 | 37 | 29 |
| Total Contacts | 602 | 493 | 1802 | 626 | 385 |
| Average contacts per infectious case | 17.8 | 13.0 | 56.3 | 16.9 | 13.3 |
| Number (%) of contacts evaluated ^b | 560 (93%) | 388 (79%) | 1617 (90%) | 568 (91%) | 354 (92%) |
| Number (%) of evaluated contacts diagnosed with TB infection | 138 (25%) | 84 (22%) | 255 (16%) | 117 (21%) | 55 (16%) |
| Number (%) of infected contacts starting treatment | 131 (95%) | 67 (80%) | 248 (97%) | 81 (69%) | 48 (87%) |
| Number (%) of contacts starting treatment who complete treatment | 106 (81%) | 61 (91%) | 227 (92%) | 68 (84%) | 40 (83%) |
| Number (%) of contacts diagnosed with active TB disease | 6 (1%) | 3 (<1%) | 4 (<1%) | 2 (<1%) | 3 (<1%) |
| ^a Preliminary treatment initiation and completion data | | | | | |
| ^b Evaluated=symptom check and tuberculin skin test (TST)/interferon gamma release assay (IGRA), chest x-ray, sputum studies (as indicated) | | | | | |

Class B TB Evaluations

Immigrants and refugees who are traveling to the United States are evaluated for TB prior to arriving (as required by U.S. immigration law) and assigned a classification according to the status of their disease. The Division of Global Migration and Quarantine notifies CDPHE's TB Program of all individuals who are in need of additional TB evaluation, referred to as Class B. While data are still preliminary for 2015, there were 314 Class B TB notifications. Of those 229 (73%) were evaluated. One person was found to have active TB disease and 62 were recommended for TB infection treatment of which 47 (27%) initiated treatment (Table 4).

Table 4. Evaluation and Treatment of Class B TB Immigrants and Refugees, Colorado 2011-2015

| | 2011 | 2012 | 2013 | 2014 | 2015 ^a |
|---|-----------|-----------|-----------|-----------|-------------------|
| Number (%) of Class B TB notifications | 303 | 412 | 335 | 345 | 314 |
| Number (%) Evaluated | 260 (86%) | 368 (89%) | 295 (88%) | 295 (86%) | 229 (73%) |
| Number (%) of evaluated recommended for treatment | 107 (41%) | 124 (34%) | 97 (33%) | 83 (28%) | 62 (27%) |
| Number (%) recommended for treatment who started treatment | 91 (85%) | 96 (77%) | 83 (86%) | 65 (78%) | 47 (76%) |
| Number (%) started treatment who completed treatment | 83 (91%) | 86 (90%) | 71 (86%) | 57 (88%) | 5 (11%) |
| Number (%) diagnosed with active TB Disease | 2 (<1%) | 3 (<1%) | 0 | 4 (1.3%) | 1 (<1%) |
| ^a Preliminary data | | | | | |
| ^b Evaluated=symptom check and tuberculin skin test (TST)/interferon gamma release assay (IGRA), chest x-ray, sputum studies (as indicated) | | | | | |

Next Steps

There was a state and national increase in active TB in 2015, with total cases up 1.7% in the U.S. and 14.0% in Colorado. The case rate for Colorado increased from 1.2 to 1.3 per 100,000, which may be a more meaningful figure since it is adjusted for increases in population size. However, with small numbers underlying these percentage changes, it is unclear if this fluctuation will develop into a more clearly defined upward trend; vigilance is paramount. The onus falls to private providers and local public health agencies to identify and screen those most at-risk for TB infection and initiate those found to be positive for TB infection into care to reduce the chances of managing those persons through TB disease care and treatment later in life. As the demographic breakdowns in this report attest, the key risk factors and the most at-risk groups for development of TB disease have been identified. Because of this knowledge coupled with access to improved diagnostics and emerging technologies, dedicated TB stakeholders throughout Colorado worked together over the past 16 months to draft a comprehensive, crosscutting, interdisciplinary 10-year TB elimination plan for the state covering 2017-2026. As activities begin rolling out in late 2016, a primary goal is to plumb the depths of the TB infection reservoir in Colorado and to engage those most at-risk in treatment. The hope is this and other interventions will result in the return of a steady decline in active TB in each successive year.