



# Tuberculosis Surveillance Report Annual Report 2016

SAINT LOUIS COUNTY DEPARTMENT OF PUBLIC HEALTH  
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## **Saint Louis County Department of Public Health**

### **Mission**

The Saint Louis County Department of Public Health strives to keep Saint Louis County one of the best places in the region to live, work, or visit. This is accomplished by regularly assessing the health and environment of the county and responding with sound policies that help assure the availability of high quality public health services for everyone.

### **Vision**

The Saint Louis County Department of Public Health's vision is a collaborative public health system entrusted to coordinate and allocate resources for prevention and outreach to promote and create a healthy and safe environment.

### **Values**

The Saint Louis County Department of Public Health is committed to:

- being a public health leader in the community;
- operating in a manner that recognizes the value of all people;
- continuously improving its operations;
- using evidence-based practices;
- attaining the highest level of service through efficiency, consistency, and relationship development;
- promoting innovation to ensure all people in the community are served; and
- operating in a transparent manner and accepting responsibility for outcomes.

## Report Preparation

This report was prepared by the Saint Louis County Department of Public Health, Division of Communicable Disease Control Services.

- Tuberculosis Program
- Epidemiology Program

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## Executive Summary

The Tuberculosis (TB) Program within Saint Louis County Department of Public Health (DPH) utilizes the National TB Program Objectives and Performance Targets published by the Centers of Disease Control and Prevention (CDC) to evaluate TB within Saint Louis County. The mission of this program is to promote health and quality of life by preventing, controlling, and eventually eliminating TB from the United States. The CDC's National TB Program has a focus on objectives for specific populations and sets these objectives to monitor the nation's progress and motivate change that will prevent further disease. Updated National TB Program Objectives and Performance Targets for 2020 were released in August 2015. Figures in this report depict both the 2015 and 2020 targets, as well as compare the key findings and accomplishments regarding the control and prevention of TB in the nation, Missouri, and Saint Louis County from 2012 to 2016.

In Saint Louis County, 20 cases of TB disease were reported in 2016. The rate of TB increased from 1.5 cases per 100,000 population in 2015 to 2.0 cases per 100,000 population in 2016. The TB rate in Saint Louis County exceeded the national target (1.4 cases per 100,000 population) in both 2015 and 2016.

The case rate of TB within the foreign-born population remained relatively unchanged between 2015 and 2016 (16.4 cases to 16.3 cases per 100,000 population), whereas the rate among U.S.-born individuals rose from 2015 to 2016 (0.4 cases to 1.0 cases per 100,000 population). Though stable, the rate in the foreign-born populations continues to be higher than in the U.S.-born population.

The U.S.-Born non-Hispanic Black TB case rates in Saint Louis County doubled from 2015 to 2016 (1.3 cases to 2.6 cases per 100,000 population). As a result, the rate of TB cases surpassed CDC's 2015 (1.3 cases per 100,000 population) and 2020 (1.5 cases per 100,000 population) U.S.-born non-Hispanic Blacks National TB Program Targets. The non-Hispanic White TB case rate also increased to 0.4 cases per 100,000 population during 2016, but the rates in this population continue to be lower than the non-Hispanic Black population in Saint Louis County.

Smoking remains the largest risk factor for progression to active TB in Saint Louis County with 25% of cases (n=5) being smokers in 2016. Diabetes among TB cases dropped from 5 cases to 3 between 2015 and 2016.

In 2016, 40.0% (n=8) of cases were between the ages of 45 to 64 years. There were no cases of TB among children under the age of 14 in Saint Louis County.

Latent TB infection, a reportable disease in Missouri, had a notable increase in cases in 2016 (n=568) compared to 2015 (n=464) in Saint Louis County although the LTBI counts are similar to 2014 and 2013 counts.

## The Tuberculosis Program

The Saint Louis County TB Program performs TB surveillance, disease investigation, medical follow-up, and case management for residents of Saint Louis County. Priorities of the Saint Louis County TB Program include:

### The TB Program in 2016:

- The DPH Chest Clinic had **416** TB related appointments scheduled
- **288** unique individuals were seen at the Chest Clinic
- **20** TB disease patients received DOT
- **8** high-risk LTBI patients received DOT
- DOT was provided for **2** patients who transferred from other jurisdictions

- Identifying all individuals with suspected and confirmed TB disease and providing patient-centered care, including intensive case management services and appropriate treatment via directly observed therapy (DOT).
- Completing contact investigations among contacts of patients with infectious TB disease, including TB screening, medical evaluations, and prophylactic therapy, if necessary.
- Working in partnership with patients, hospitals, health care providers, and labs to diagnose, treat, and prevent further transmission of TB.
- Collecting and analyzing TB epidemiological data.

### Services Provided by Saint Louis County DPH

DPH is the leading provider of TB care in Saint Louis County. The DPH Chest Clinic is available to any Saint Louis County resident with symptoms of TB disease or a positive test for TB infection. TB diagnostic services (such as bloodwork, sputum induction, and chest x-rays) and expert medical evaluation are provided on-site. The Chest Clinic supports equitable access to the full continuum of tuberculosis care, from diagnosis through treatment completion, regardless of financial resources, race, gender, age, language, legal status, religious beliefs, sexual orientation, culture, or co-morbidities.

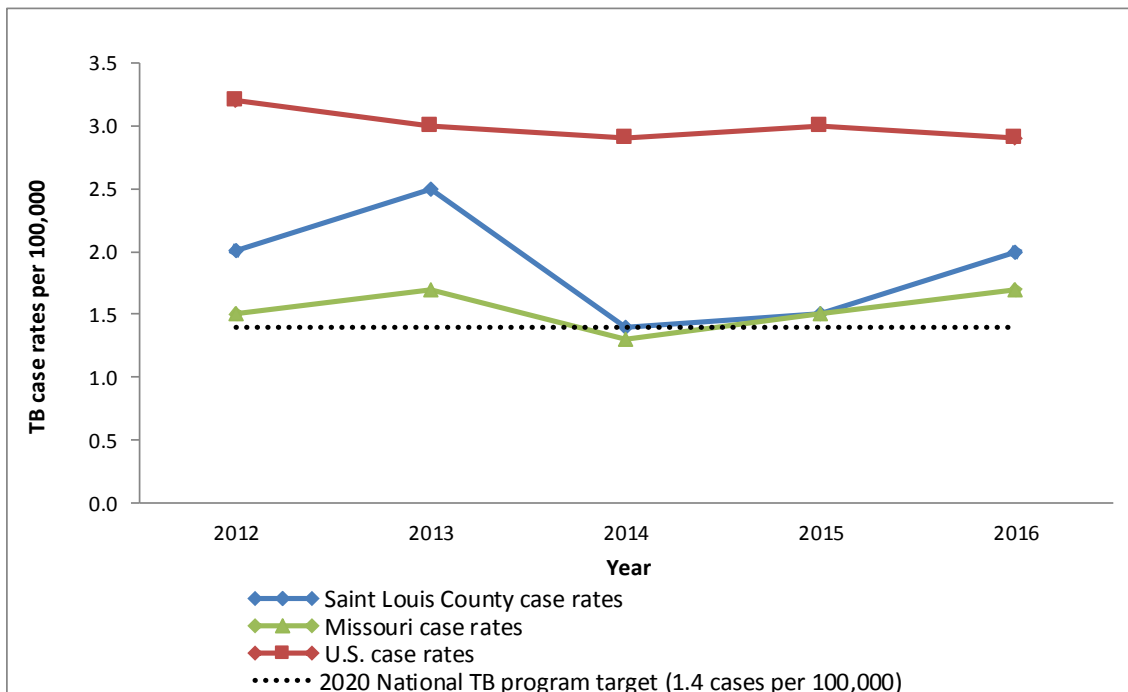
The TB Program provides case management for residents diagnosed with TB disease, regardless of where they are receiving their TB care. Case management activities include patient education, comprehensive patient interviews, medical care coordination, contact elicitation, contact evaluation, and DOT. DOT is the standard of care for managing patients with suspected or confirmed TB disease; it ensures medications are taken appropriately and consistently until completion of treatment and allows for prompt reporting of side effects. During DOT, a patient is observed by an outreach worker while taking anti-TB medications. DPH outreach workers traverse the entire county to perform DOT in patients' homes, work places, and other locations convenient for the patient.

The TB Program works with the DPH Epidemiology Program to conduct surveillance of TB disease, TB infection, and nontuberculous mycobacterial infection throughout Saint Louis County. Epidemiologists analyze TB trends, prepare surveillance reports, and update tracking systems to describe how TB impacts residents of Saint Louis County and to develop strategies to improve TB prevention and care within the community.

## TB Disease in Saint Louis County

Nationally, there were 9,287 cases of TB (2.9 cases per 100,000 population) reported to the CDC during 2016. Saint Louis County had 20 cases of TB reported, which corresponds to a case rate of 2.0 cases per 100,000 population. In comparison, the state of Missouri had a case rate of 1.7 per 100,000 population (with 101 total cases) in 2016. CDC has set a 2020 Performance Target of 1.4 TB cases per 100,000 population; Saint Louis County, the state of Missouri and national rates were higher than the desired goal. The TB rates for the United States, Missouri and Saint Louis County throughout the previous five years are shown in Figure 1, below.

**Figure 1: United States, Missouri, and Saint Louis County Tuberculosis Rates for 2012 to 2016**



\*2016 national data is provisional

The ZIP Code with the highest rate of TB during 2012 to 2016 was 63132, which had a five-year case rate of 21.5 cases per 100,000 population. Only ZIP Codes with one or more reported cases of TB are represented in Table 1. Map 1 represents the TB case rate for the previous five years visualized over the five regions of Saint Louis County: Inner North, Outer North, West, Central, and South. These regions were designed by DPH in conjunction with the Department of Planning in order to accurately depict the social and demographic differences within the County as well as de-identify the patients.

**Table 1: Tuberculosis Five-Year Case Rates by ZIP Code, Saint Louis County, 2012 to 2016**

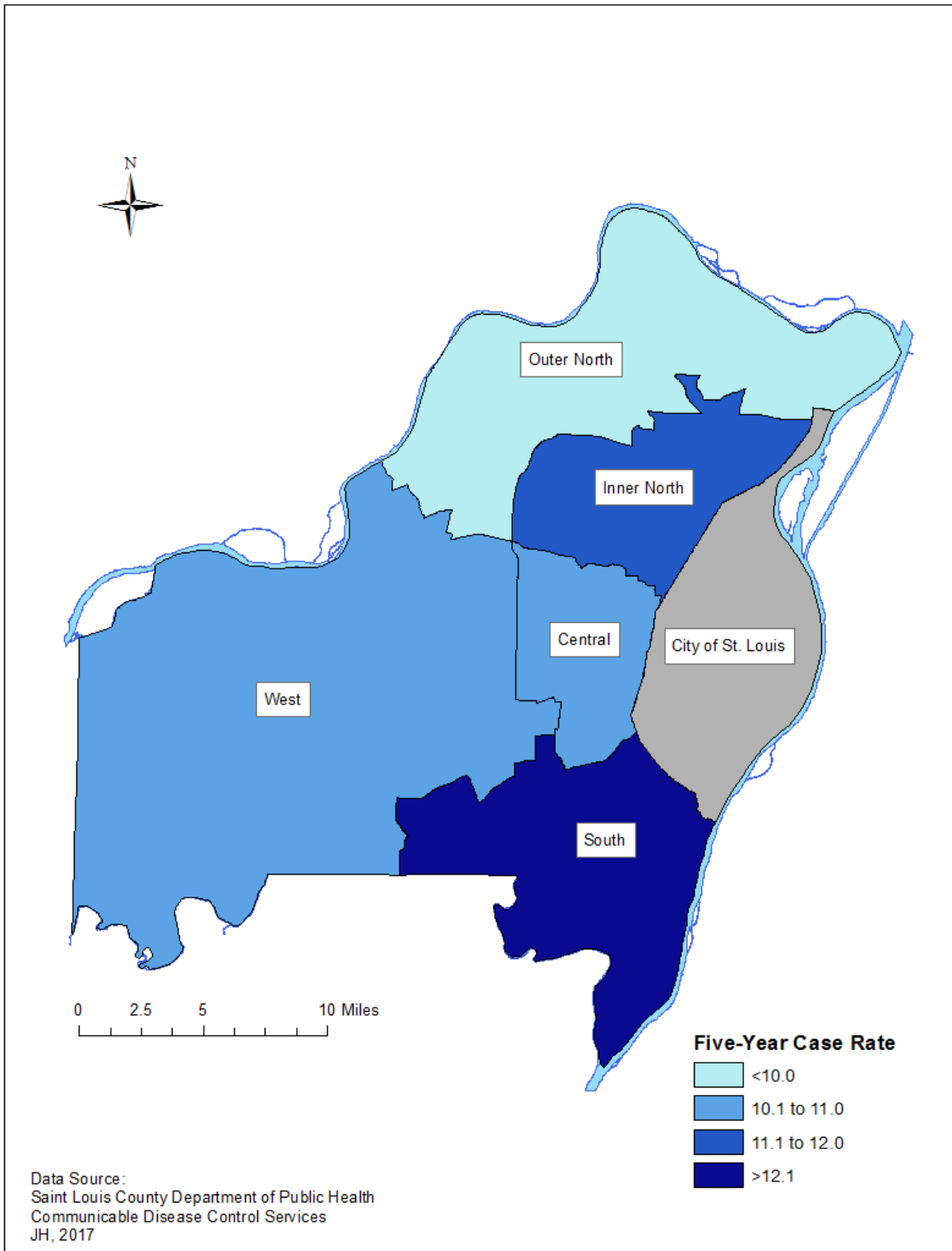
<b>ZIP Code</b>	<b>5-year case rate per 100,000 population</b>	<b>ZIP Code</b>	<b>5-year case rate per 100,000 population</b>
63132	21.5	63130	10.1
63124	19.2	63138	9.9
63129	19.0	63141	9.7
63135	18.8	63044	9.5
63021	16.0	63123	8.5
63136	15.0	63031	8.3
63137	10.0	63134	7.3
63146	14.0	63126	6.6
63128	13.7	63074	6.6
63125	13.6	63105	6.0
63131	12.5	63119	5.9
63033	11.9	63034	5.6
63144	11.6	63114	5.5
63005	11.3	63122	5.2
63011	11.3	63043	4.5
63042	10.2	63017	2.4

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\*Population numbers based on U.S. Bureau of Census 2012 to 2016 estimates. Case rates are based on the total Saint Louis County population of the ZIP Code.



**Map 1: Tuberculosis Case Rates per 100,000 Population, 2012 to 2016, Saint Louis County, N = 9 4**



\*Case rates are based on the total Saint Louis County population of the ZIP Codes in each region.

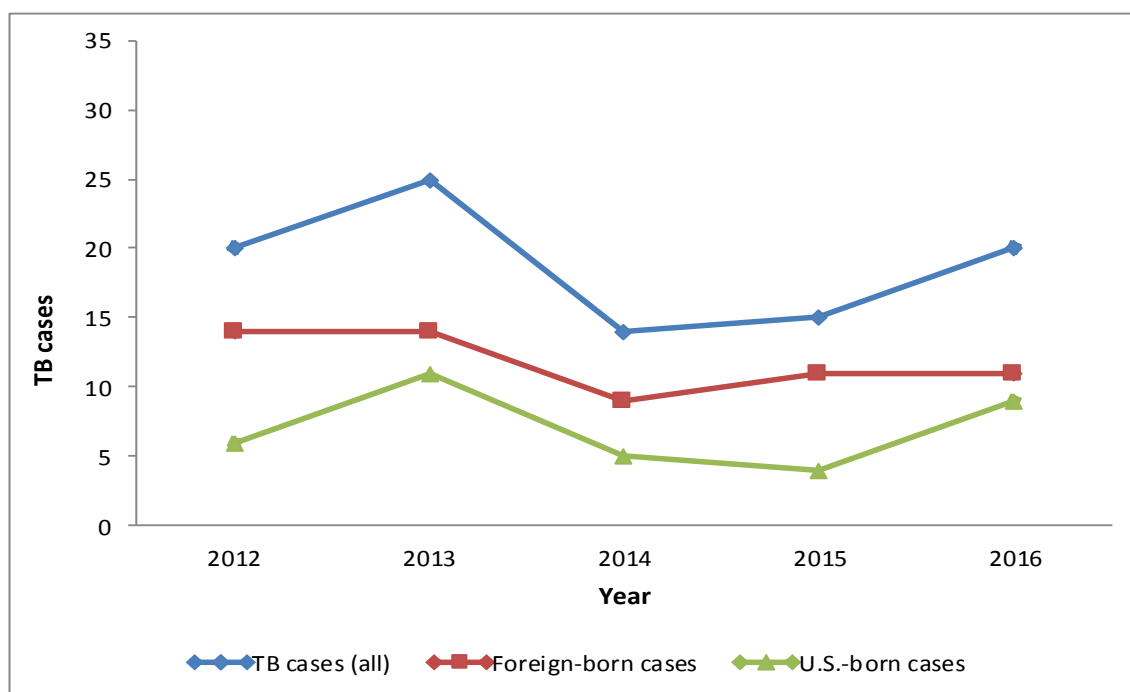
## TB Disease by Origin of Birth

Table 2 depicts the TB cases among U.S.-born and foreign-born residents in Saint Louis County. The TB case rate among foreign-born residents has consistently been higher than the rate among U.S.-born residents throughout the previous five years. During 2012 to 2016, 37% (n=35) of TB cases were U.S.-born, compared to 63% (n=59) of cases being foreign-born residents. The proportion of U.S.-born TB cases per year among all TB cases in the same year ranged from a high of 45% (n=9) in 2016 to a low of 27% (n=4) in 2015.

**Table 2: Tuberculosis Cases and Case Rates in U.S.-Born and Foreign-Born Residents, Saint Louis County, 2012 to 2016**

Case Year	U.S.-Born Residents		Foreign-Born Residents	
	TB Case Count	TB Case Rate per 100,000	TB Case Count	TB Case Rate per 100,000
2012	6	0.6	14	19.8
2013	11	1.2	14	19.8
2014	5	0.5	9	12.7
2015	4	0.4	11	16.4
2016	9	1.0	11	16.3

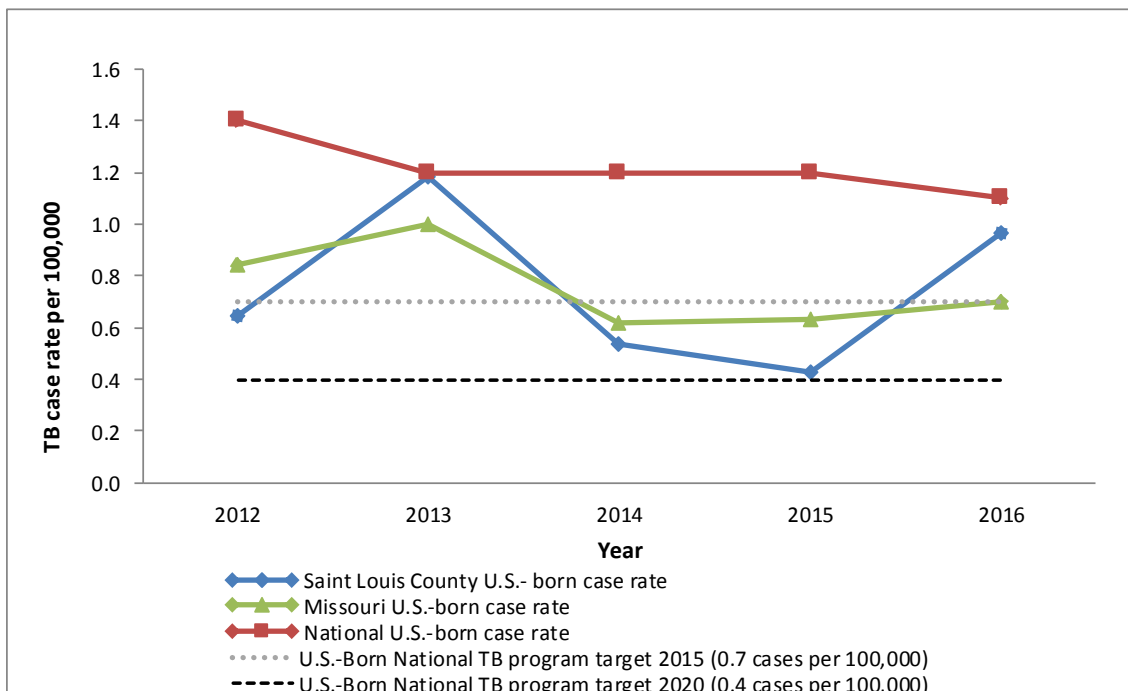
**Figure 2: Tuberculosis Cases in U.S.-Born and Foreign-Born Residents, Saint Louis County, 2012 to 2016**



Reducing the TB case rate among U.S.-born persons to 0.7 cases per 100,000 population or fewer is one of the CDC’s 2015 Performance Targets. For the year 2020, this Target was lowered to 0.4 cases per 100,000 population.

In 2016, Saint Louis County had a rate of 1.0 cases per 100,000 population and the state of Missouri had a rate of 0.7 cases per 100,000 population. Compared to national data (1.1 cases per 100,000 population), Saint Louis County had a slightly lower rate of TB among the U.S.-born population, although the rate within the County has increased from 2015 (0.4 cases per 100,000 population). Missouri had a rate of 0.7 cases per 100,000 population, which was below national and local rates. The U.S. and Saint Louis County were unable to achieve either of the Performance Targets but the state of Missouri met the 2015 Target, as seen in Figure 3.

**Figure 3: National, Missouri, and Saint Louis County Tuberculosis Case Rates in U.S.-Born Residents, 2012 to 2016**

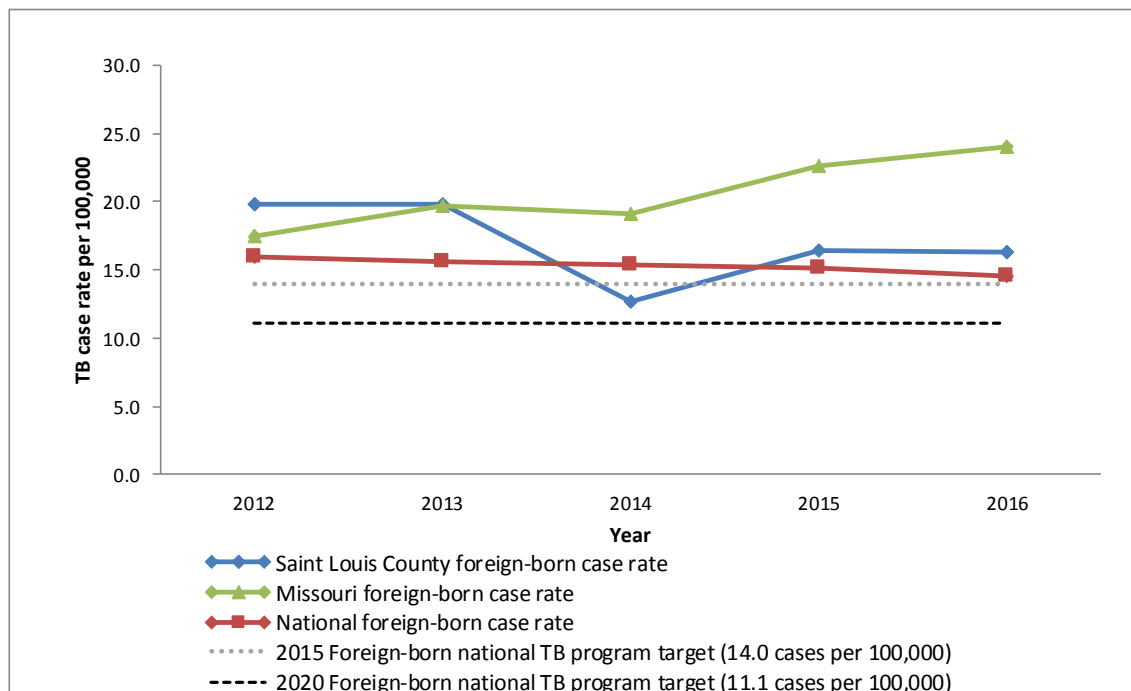


\*2016 national data are provisional

One of the CDC’s Performance Targets for 2015 was to decrease the TB case rate among foreign-born persons to 14.0 cases per 100,000 population or fewer. For the year 2020, the target was reduced to achieve a case rate of 11.1 cases per 100,000.

In 2016, the TB case rate among foreign-born residents in Saint Louis County was above both national targets, at 16.3 cases per 100,000 population. The provisional 2016 national TB case rate was 14.6 cases per 100,000 population, slightly above the 2015 Target. Missouri had a rate that was greater than both the local and national rates (24.1 cases per 100,000). Saint Louis County, the state of Missouri, and the nation were unable to achieve either of the 2015 or 2020 Performance Targets, as seen in Figure 4.

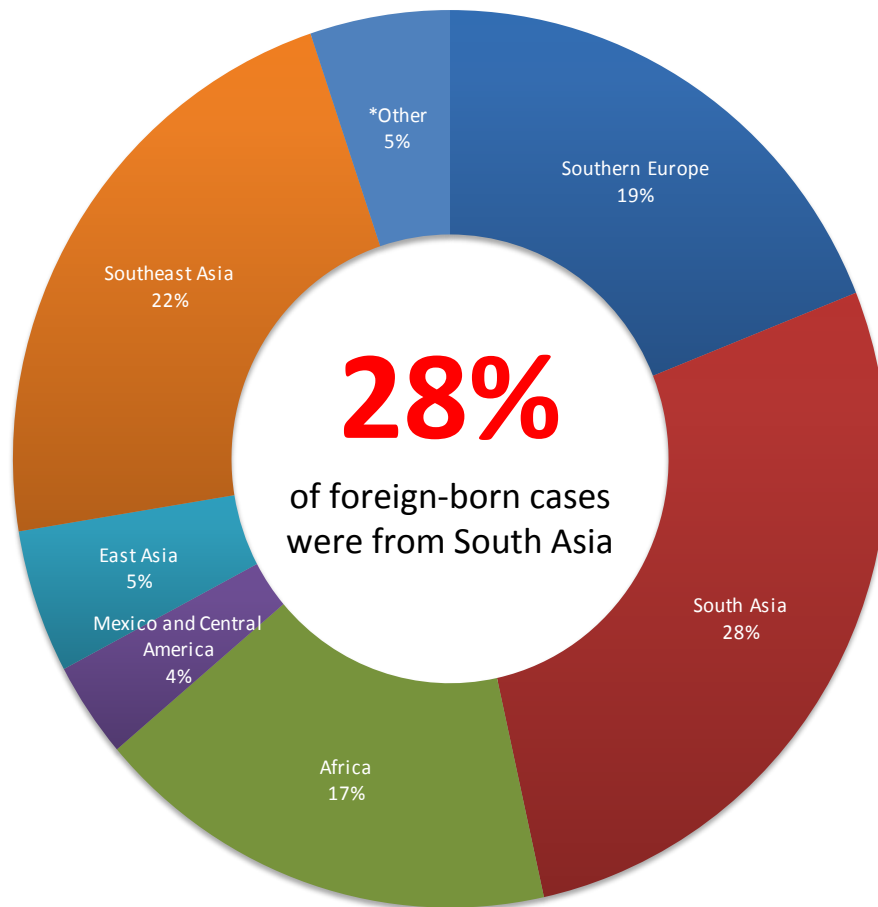
**Figure 4: National, Missouri, and Saint Louis County Tuberculosis Case Rates in Foreign-Born Residents, 2012 to 2016**



\*2016 national data are provisional

During 2012 to 2016, there were 58 cases of TB disease among foreign-born residents. Twenty-eight percent (n=16) of cases were born in South Asia, and 22% (n=13) of cases occurred among residents born in Southeast Asia. Figure 5 depicts the origins of TB cases in foreign-born residents for the previous five years by regions. These regions are pre-defined by the CDC and used by DPH to de-identify patients. See [Appendix A](#) for the complete list of countries and territories included in each CDC region.

**Figure 5: Tuberculosis Cases in Foreign-Born Residents by Region of Origin, Saint Louis County, 2012 to 2016**



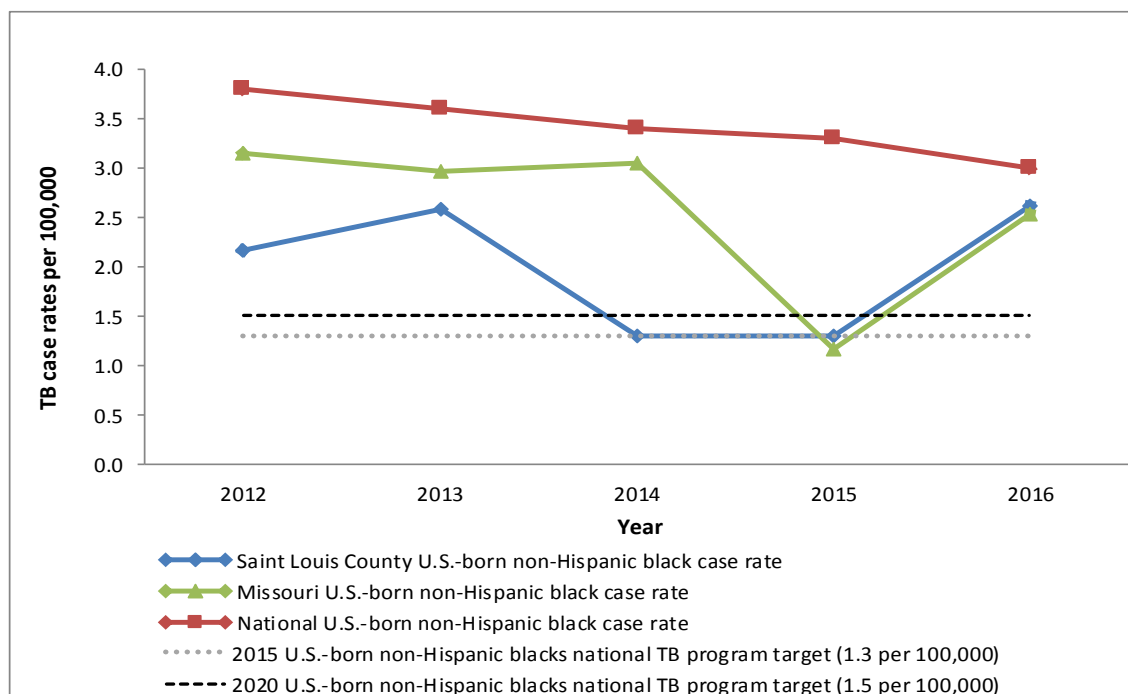
\*Includes: Haiti, Eastern, Western, and Northern Europe.

## TB Disease by Race and Ethnicity

Saint Louis County is actively working to address racial and ethnic health disparities and to improve the health of persons disproportionately affected by TB. This can be seen through the availability of Chest Clinic services to all County residents, regardless of financial resources, race, gender, age, language, legal status, religious beliefs, sexual orientation, culture, or co-morbidities.

During 2016, Missouri and Saint Louis County TB rates for the U.S.-born non-Hispanic black population doubled from their 2015 rates. In Saint Louis County, these rates went from 1.3 cases to 2.6 cases per 100,000 and 1.2 cases to 2.5 cases per 100,000 for the state of Missouri. The provisional 2016 national case rate was 3.0 cases per 100,000 population, a slight decrease from the 2015 rate (3.3 cases per 100,000). The local, state, and national rates were all above the CDC’s Performance Targets for 2015 and 2020 to obtain a TB case rate of 1.3 cases and 1.5 cases per 100,000 population among the non-Hispanic black residents, as seen in Figure 6.

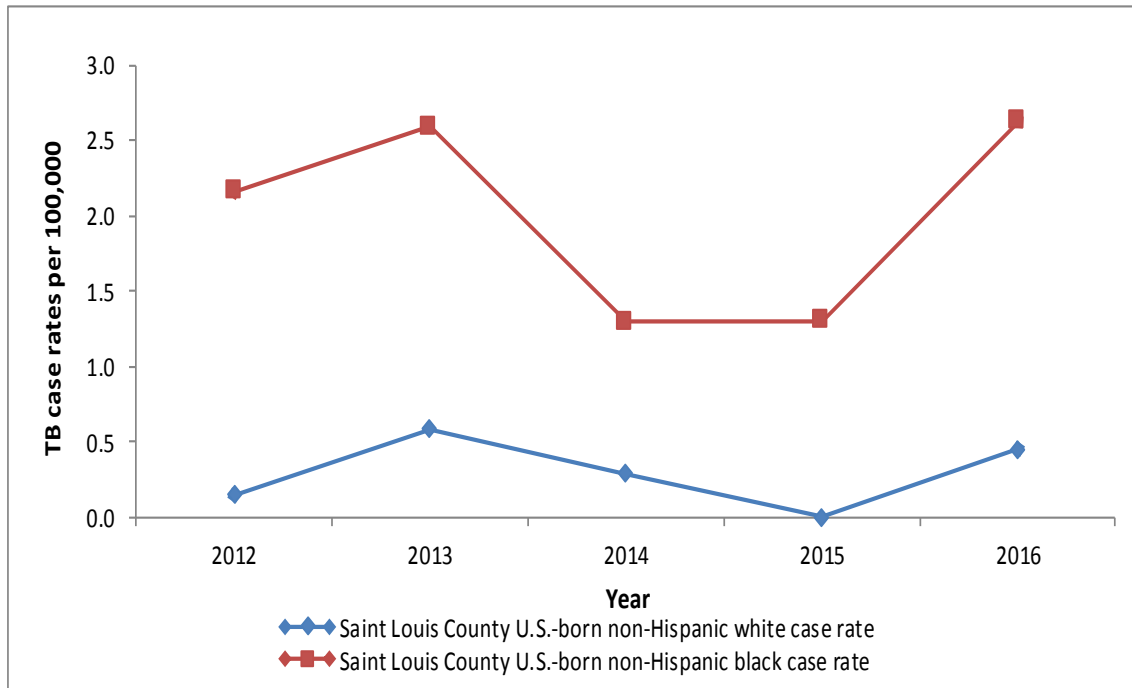
**Figure 6: National, Missouri, and Saint Louis County Tuberculosis Case Rates in U.S.-Born non-Hispanic Black Residents, 2012 to 2016**



\*2016 national data are provisional

Throughout the previous five years, TB case rates among U.S.-born non-Hispanic black residents have consistently been higher than that of the U.S.-born non-Hispanic white residents in Saint Louis County. During 2016, 33.3% (n=3) of the U.S.-born cases were non-Hispanic white residents and 66.7% (n=6) were non-Hispanic black residents, as seen in Figure 7. For reference, according to the 2015 American Community Survey 1-year estimates, there are almost six times as many white residents living in the county compared to black residents.

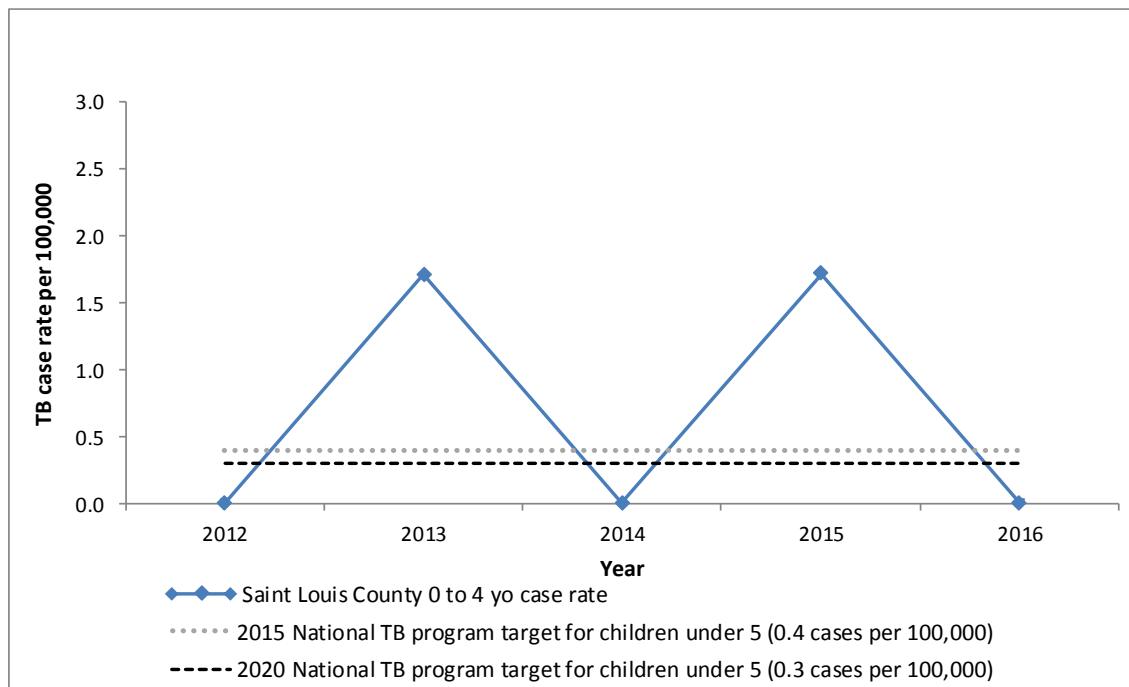
**Figure 7: Tuberculosis Case Rates in U.S.-Born non-Hispanic Black Residents and U.S.-Born non-Hispanic White Residents, Saint Louis County, 2012 to 2016**



## TB Disease by Age and Age Group

One goal of the CDC’s Performance Targets for 2020 is to reduce the TB case rate for children under 5 years old to fewer than 0.3 cases per 100,000 population. In 2016, Saint Louis County had 0 cases of TB among children under the age of 5, resulting in a case rate below the Performance Target.

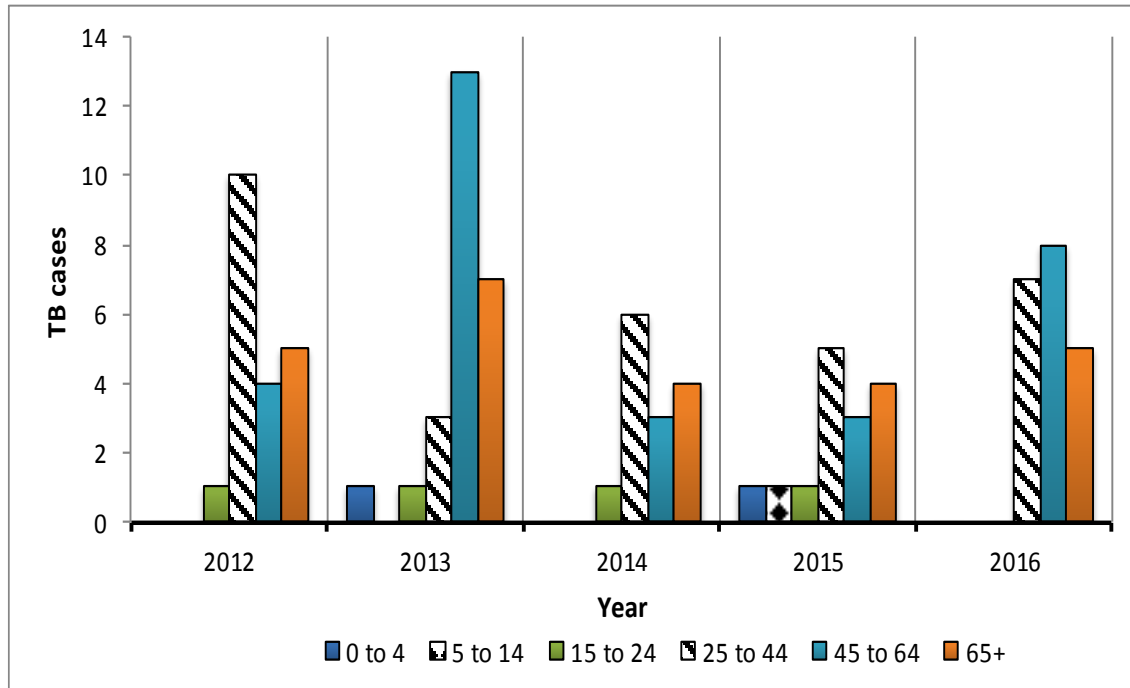
**Figure 8: Tuberculosis Case Rates in Children 0-4 Years Old, Saint Louis County, 2012 to 2016**



During the last five years, patients with TB disease ranged in age from 2 to 91 years. The median age of patients with TB during this 5-year period was 50 years. The highest number of TB cases among children 0 to 4 years of age occurred in 2013 (n=1) and 2015 (n=1). The majority of TB cases in the previous five years in Saint Louis County have been among adults in the 45 to 64 year-old age group, which carries the largest disease burden in the County. During 2016, 40.0% (n=8) of all TB cases in Saint Louis County were in this age group, although this age group represented only 27.7% of the County’s population based on the 2015 Census population estimate.



**Figure 9: Tuberculosis Cases by Age Group, Saint Louis County, 2012 to 2016**



## TB Disease by Risk Factors

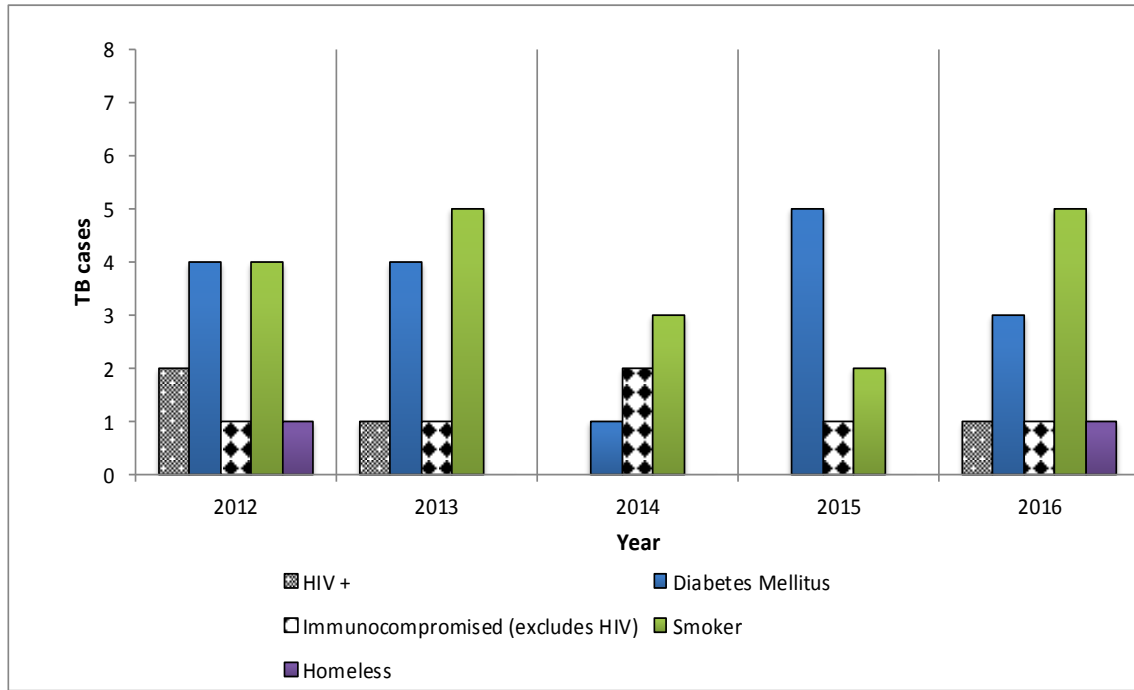
Risk factors for developing TB disease fall into two categories: those which have increased likelihood of exposure to *M. tuberculosis* (e.g., close proximity to someone with TB disease, immigrated from parts of the world with higher TB rates, or homelessness), and those which conditions associated with increased risk of progression to TB disease (e.g., HIV infection, diabetes, immune compromised, and smoking). The CDC defines more risk factors for the development of TB, a link is provided in the references section for more information. Forty-seven percent (n=44) of TB cases for the previous five years in Saint Louis County have a single risk factor, 4.3% (n=4) of cases have multiple risk factors. The most prevalent risk factor among this population has been smoking with 40% (n=19) of cases. While diabetes has been the second most common risk factor with 35% (n=17) of residents with TB having this disease. Compared to 2015 national data, the most recent year available, 55.5% of cases have a known risk factor for TB. 22.9% of those cases have an “other” risk factor, and 15.6% have diabetes.

**Table 3: Tuberculosis Cases by Risk Factor, Saint Louis County, 2012 to 2016**

Year	HIV +	Diabetes Mellitus	Immunocompromised (excludes HIV)	Smoking	Homeless
2012	2	4	1	4	1
2013	1	4	1	5	0
2014	0	1	3	3	0
2015	0	5	1	2	0
2016	0	3	1	5	1
<b>5 Year Total</b>	<b>3</b>	<b>17</b>	<b>7</b>	<b>19</b>	<b>2</b>

\*Cases with multiple risk factors are counted more than once.

**Figure 10: Tuberculosis Cases by Risk Factor, Saint Louis County, 2012 to 2016**

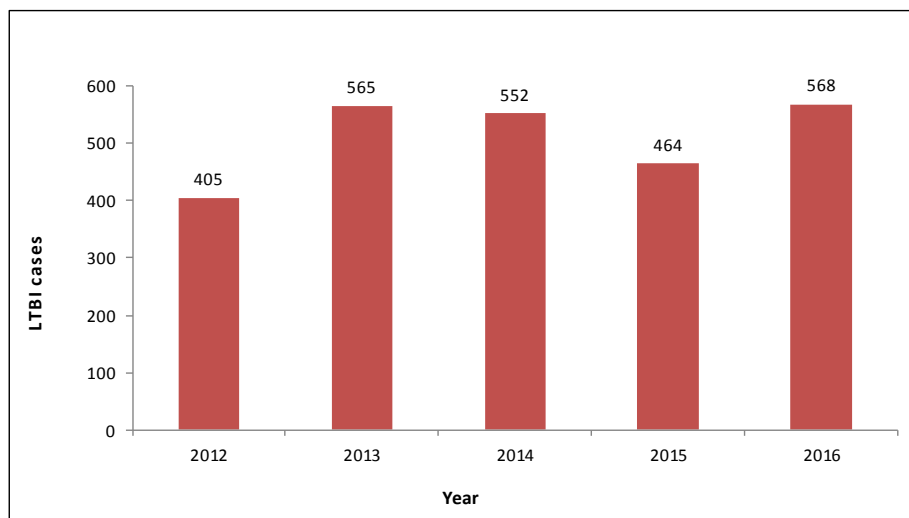


\*Cases with multiple risk factors are counted more

## Latent TB Infection (LTBI)

TB elimination will require expanded efforts to identify and treat individuals with LTBI before it can progress to TB disease. Unlike TB disease, LTBI is not infectious due to the inactivity of the *M. tuberculosis* bacteria in an individual's body. While they have the same germ as someone with TB disease, they do not have any symptoms and are not sick with the disease. Many healthy patients living with LTBI will never progress to TB disease, but 5 to 10% of patients will develop the disease at some point in their lives. For half of those who develop TB disease, they will do so within the first two years of becoming infected with LTBI. In 2015, there were 464 cases of LTBI reported to the DPH. In 2016, this increased to 568 cases which is above the median for the previous five years (n=552). Figure 12 represents the previous five years' worth of LTBI cases.

**Figure 11: Latent Tuberculosis Infection Cases, Saint Louis County, 2012 to 2016**



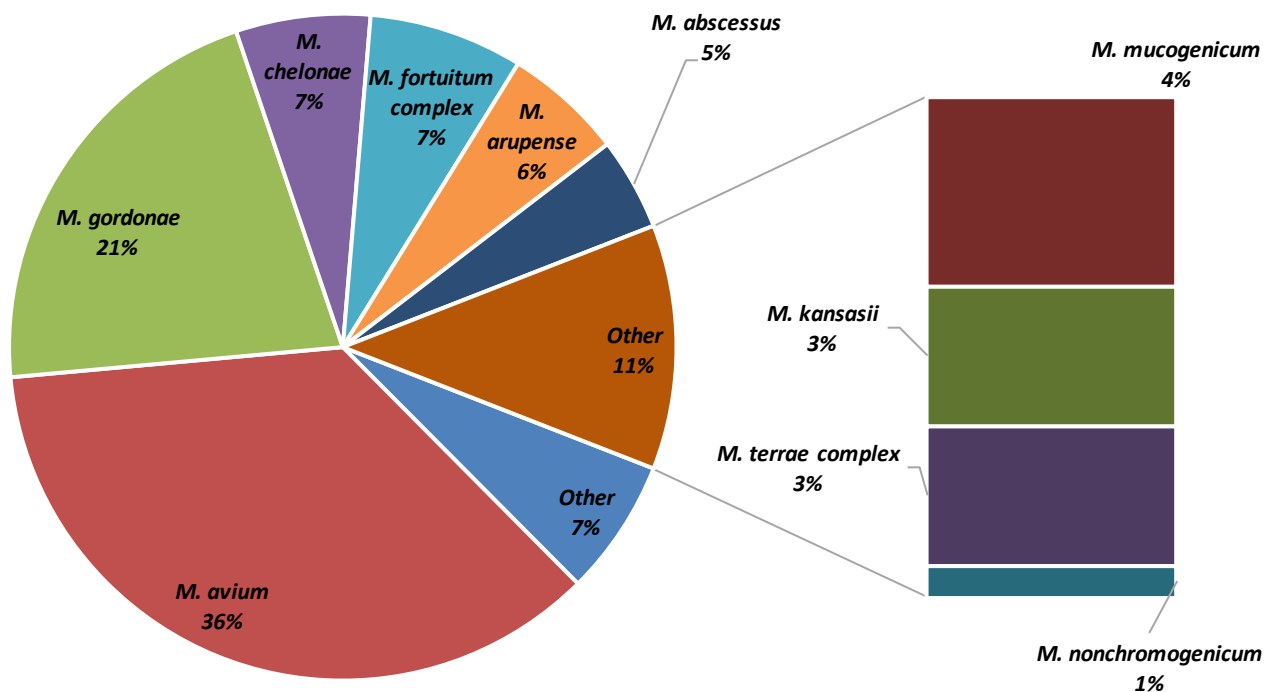
## Drug-Resistant TB

According to the CDC, multidrug-resistant TB (MDR-TB) can be defined as a TB organism that is resistant to two of the main medications used to treat TB: isoniazid and rifampin. There are two ways an individual can be diagnosed with MDR-TB: primary or acquired. Primary MDR-TB occurs when an individual is in close contact with someone already infected with MDR-TB and become infected. Acquired MDR-TB occurs when there's a complication with the prescribed regimen resulting in the typical organism developing a resistance to the medication. In Saint Louis County, from 2012 to 2016, there have been 0 cases of MDR-TB but there have been 5 cases of isoniazid (INH) resistant TB. In order to prevent further drug-resistance, the TB Program works diligently to ensure patients complete their therapy through DOT and proactive case management.

## Nontuberculous Mycobacteria (NTM)

During 2012 to 2016, there were 932 infections due to nontuberculous mycobacteria (NTM). The greatest proportion of these infections were due to *Mycobacterium avium*, which caused 36% (n= 337) of new NTM reports over the past five years. Figure 13 presents the top 10 NTM species that were reported for the previous five years and all remaining species included in the variable ‘other.’ Patients included in Figure 13 are counted only one time.

**Figure 12: Top 10 Nontuberculous Mycobacterial Species, Saint Louis County, 2012 to 2016**



\*Other includes: blank, other rapid grower, *M. xenopi*, *M. smegmatis*, *M. simiae*, *M. chimaera*, *P. peregrinum*, *M. marinum*, *M. goodii*, *M. parascrofulaceum*, *M. intracellulare*, *M. porcinum*, *M. neworleansense*, *M. neoaurum*, *M. phocaicum*, *M. immunogenum*, *M. haemophilum*, *M. lentiflavum*, *M. wolinskyi*, *M. sphagni*, *M. scrofulaceum*, and *M. szulgai*.

Missouri Department of Health and Senior Services TB reports can be found at:  
<http://health.mo.gov/living/healthcondiseases/communicable/tuberculosis/data.php>

National TB Program Objectives & Performance Targets for 2020 can be found at:  
<http://www.cdc.gov/tb/programs/Evaluation/Indicators/default.htm>

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Centers for Disease Control and Prevention (CDC). *TB Risk Facts*. Atlanta, GA: US Department of Health and Human Services, CDC; 2016. DOI: <https://www.cdc.gov/tb/topic/basics/risk.htm>

Schmit KM, Wansaula Z, Pratt R, Price SF, Langer AJ. Tuberculosis — United States, 2016. *MMWR Morb Mortal Wkly Rep* 2017;66:289–294. DOI: <http://dx.doi.org/10.15585/mmwr.mm6611a2>.

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## Appendix A: CDC Global Regions

The Saint Louis County Department of Public Health utilizes CDC global regions to further de-identify report data. The countries/territories included in each CDC region are provided below.

CDC Region	Countries/ Territories Included
Africa	Algeria, Angola, Botswana, Benin, Bassas Da India, Burundi, Chad, Congo, Cameroon, Comoros, Central African Republic, Cape Verde, Djibouti, Dahomey [Benin], Egypt, Equatorial Guinea, Eritrea, Ethiopia, Europa Island, French Territory of The Affairs and Issas, The Gambia, Gabon, Ghana, Glorioso Islands, Guinea, Cote D' Ivoire, Kenya, Liberia, Lesotho, Libya, Madagascar, Spanish North Africa, Mayotte, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Niger, Nigeria, Guinea-Bissau, Reunion, Southern Rhodesia, Rwanda, Seychelles, South Africa, Senegal, Saint Helena, Sierra Leone, Somalia, South Sudan, Spanish Sahara, Sudan, Tromelin Island, Togo, Sao Tome and Principe, Tunisia, Tanzania, Uganda, Burkina Faso, Namibia, Western Sahara, Swaziland, Zambia, Zimbabwe
East Asia	China, Hong Kong, Japan, North Korea, South Korea, Macau, Mongolia, Taiwan, Southern Ryukyu Islands
South Asia	Bangladesh, Bhutan, Sri Lanka, India, Maldives, Nepal, Pakistan, Sikkim
Southeast Asia	Burma, Brunei, Cambodia, Indonesia, Laos, Malaysia, Paracel Islands, Spratly Islands, Papua New Guinea, Timor, Philippines, Singapore, Thailand, East Timor, Vietnam, North Vietnam, South Vietnam
West/Central Asia	Afghanistan, Azerbaijan, Armenia, Georgia, Kyrgyzstan, Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan
Australia/Oceania	Australia, Ashmore and Cartier Islands, Cocos (Keeling) Islands, Coral Sea Islands, Norfolk Island, New Zealand
Caribbean (except Haiti)	Aruba, Antigua And Barbuda, Anguilla, Barbados, Bermuda, The Bahamas, Cayman Islands, Cuba, Dominica, Dominican Republic, Grenada, Guadeloupe, Jamaica, Martinique, Montserrat, Netherlands Antilles, Saint Kitts And Nevis, Saint Lucia, Swan Islands, Trinidad And Tobago, Turks And Caicos Islands, Saint Vincent and the Grenadines, British Virgin Islands
Eastern Europe	Belarus, Bulgaria, Czechoslovakia, Estonia, Czech Republic, Hungary, Latvia, Lithuania, Slovakia, Moldova, Poland, Romania, Russia, Ukraine, and Union Of Soviet Socialist Republics
Southern Europe	Albania, Andorra, Bosnia And Herzegovina, Gibraltar, Greece, Croatia, Italy, F.Y.R.O. Macedonia, Malta, Portugal, Slovenia, San Marino, Spain, Holy See (Vatican City), Yugoslavia
Western and Northern Europe	Austria, Belgium, Denmark, East Berlin, Ireland, Finland, France, Guernsey, Germany, Iceland, Isle Of Man, Jersey, Jan Mayen, Liechtenstein, Luxembourg, Monaco, Netherlands, Norway, Svalbard, Sweden, Switzerland, United Kingdom, West Berlin
Haiti	Haiti
Mexico & Central America	Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Panama Canal Zone
Middle East	United Arab Emirates, Bahrain, Cyprus, Gaza Strip, Iran, Israel, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Turkey, West Bank, Yemen
North America	Canada, Greenland, and Saint Pierre and Miquelon
Pacific Islands	Solomon Islands, Central And Southern Line Islands, Cook Islands, Jarvis Island, Canton And Enderberry Islands, Fiji, Federated States Of Micronesia, Faroe Islands, French Polynesia, Gilbert and Ellice Islands, Gilbert Islands, Heard Island And Mcdonald Islands, Howland Island, Clipperton Island, U.S. Miscellaneous Pacific Islands, Johnston Island, Juan De Nova Island, Kiribati, Christmas Island, Palmyra Atoll, Midway Island, New Caledonia, Niue, Vanuatu, Nauru, Pitcairn Island, Palau, Marshall Islands, Tokelau, Tonga, Tuvalu, Trust Territory Of The Pacific Islands, Wallis And Futuna, Wake Island, and Samoa
South America	Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, French Guiana, Falkland Islands, Guyana, Suriname, Paraguay, Peru, Uruguay, Venezuela
Other/Unknown	Antarctica, Bouvet Island, French Southern and Antarctic Lands, British Indian Ocean Territory, South Georgia and The South Sandwich Islands, and unknown countries