

Louisiana Department of Health, Office of Public Health, Tuberculosis
Control Program

Louisiana Annual Tuberculosis Report 2010-2020

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4-21-2021

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Summary

This report breaks down demographic, diagnostic, and outcome trends for Tuberculosis (TB) in Louisiana from 2010 to 2020. In addition to the number of TB cases and TB case rates, this report analyzes case rates and relative risk by sex, race, ethnicity, and age; percent of cases by country of origin, risk factors, and site of disease for all cases from 2010 through 2020. The report was updated in 2020 to include additional demographic, diagnostic, and outcome factors including race and ethnicity by country of origin, date of arrival for non-US born cases, age by sex, reason for evaluation, diagnostic confirmation type, treatment outcomes, and mortality. These factors were analyzed for cases from 2015 through 2020. Case rates were calculated using mid-year population estimates¹.

Louisiana has consistently ranked in the top 25 in the nation for TB case rates.² In 2019 Louisiana reported fewer than 100 incident cases of TB disease, since reporting was mandated in 1958. The number of cases in Louisiana dropped from 331 in 2000 to 200 in 2010, and 99 in 2020. This represents a 70.1% net decrease and an average decrease of 5.1% per year from 2010 to 2020. However, there was a 7.0% increase in the number of cases from 2015 to 2016, 10.2% from 2016 to 2017, and 11.2% from 2019 to 2020. The case rate dropped 55.3% from 4.3 cases per 100,000 population in 2010 to 2.1 cases per 100,000 population in 2020. The case rate decreased an average of 6.0% per year, but increased 10.1% from 2016 to 2017 and 9.9% from 2019 to 2020. Louisiana's case rate dropped below the national average for the first time in 2014 and remained lower in since, but was above the national average in 2017.

During the 2010-2020 period, the male case rates were higher than female case rates each year. Asian case rates were higher than Black/African-American and White case rates, and Black/African-American cases rate were higher than White case rates each year. This pattern held when race was subdivided by sex. The case rates for Hispanic/Latinos were higher than those for Non-Hispanics. This trend held when ethnicity was subdivided by sex with the exception of female Non-Hispanics having a higher case rate than female Hispanic/Latinos in 2012. The case rates for White, Asian, and Hispanic/Latino were higher in Louisiana than national rates. The case rates for Black/African-American were lower in Louisiana than for the US, with the exception of 2010.³

TB case rates were consistently lowest among those age 5-14 years during the 2010 to 2020 time period. However, in 2020 the case rate among this group was above 1.0 cases per 100,000 for the first time during this period. Case rates were highest among age groups 45-64 years old and 65+ years old. Case rates consistently decreased for those age 15-24 years old from 2010 to 2020. When age was subdivided by sex there were no significant differences.

The majority of cases in Louisiana from 2010-2020 were US-born. Similar to national statistics, the percentage of non-U.S. born cases has been increasing over the past decade. However, there was a significant decrease in the percentage of non-U.S. born cases from 2019 to 2020. This is likely associated with limited international travel in 2020 due to the Coronavirus (COVID) pandemic. From 2015 through 2020, the largest percentage of non-US born cases had arrived in the US one to five years prior to diagnosis (average 35.4%). The most common countries of origin for non-U.S. born cases in Louisiana were Vietnam, Honduras, Mexico, and the Philippines.

¹ <https://data.census.gov/cedsci/table?q=louisiana&tid=ACSDP1Y2019.DP05&hidePreview=false>

² <https://www.cdc.gov/tb/statistics/reports/2019/table29.htm>

³ <https://www.cdc.gov/tb/statistics/reports/2019/table2.htm>

The most prevalent risk factors during this period were excessive alcohol consumption, non-injection drug use, and diabetes co-infection. Excessive alcohol consumption is defined as binge drinking, approximately four to five drinks per two hours, on five or more days in the past 30 days. Excessive alcohol consumption and non-injection drug use occurred within the 12 months prior to diagnosis.

The lowest percentage of extrapulmonary cases occurred in 2017 (13.5%) and the highest in 2012 (25.7%). The most common extrapulmonary sites of disease were pleural, lymphatic cervical, and other sites.

Diagnostic trends are only analyzed for 2015 to 2020 cases. The majority of TB cases in Louisiana are culture confirmed cases (average 82.0%), followed by clinical case definition (13.3%), and NAAT positive confirmed cases (1.9%). Experiencing TB symptoms was the most common reason for evaluation among cases from 2015 to 2020 (average 55.9%), followed by an abnormal chest X-ray result (24.1%).

Outcome trends are only analyzed for 2015 to 2020 cases and utilize data from the CDC National Tuberculosis Indicator Project (NTIP) database⁴. While Louisiana had been below the national average for sputum culture conversion, treatment completion, and genotype surveillance coverage, rates have been steadily improving.

⁴ <https://www.cdc.gov/tb/programs/evaluation/indicators/default.htm>

Figures and Tables

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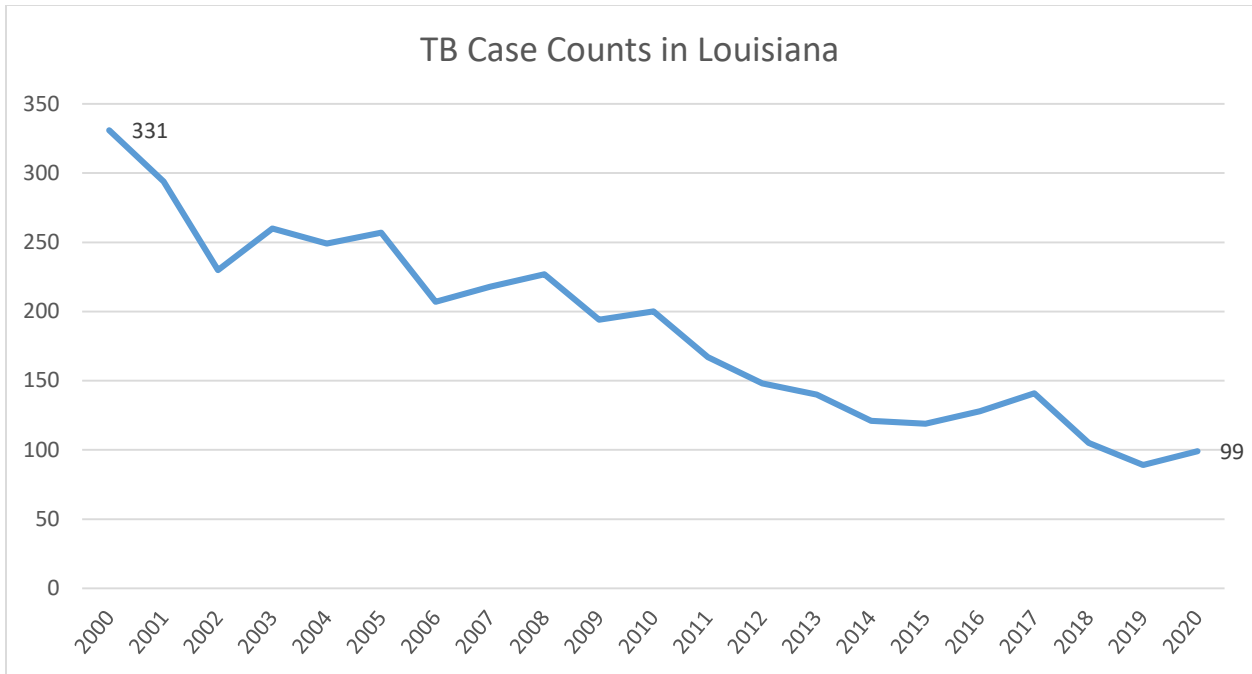


Figure 1. Number of TB cases per year in Louisiana from 2000-2020

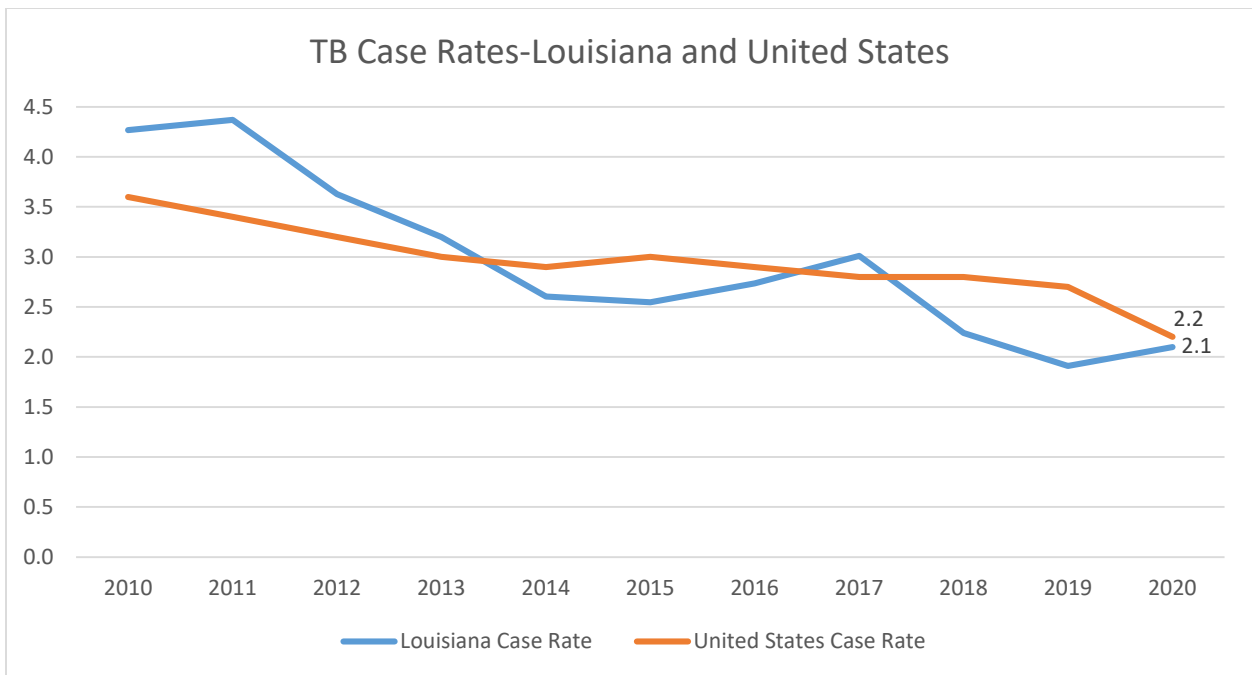


Figure 2. TB Case rate, number of cases per 100,000 population, for Louisiana and the United States from 2010 to 2020.

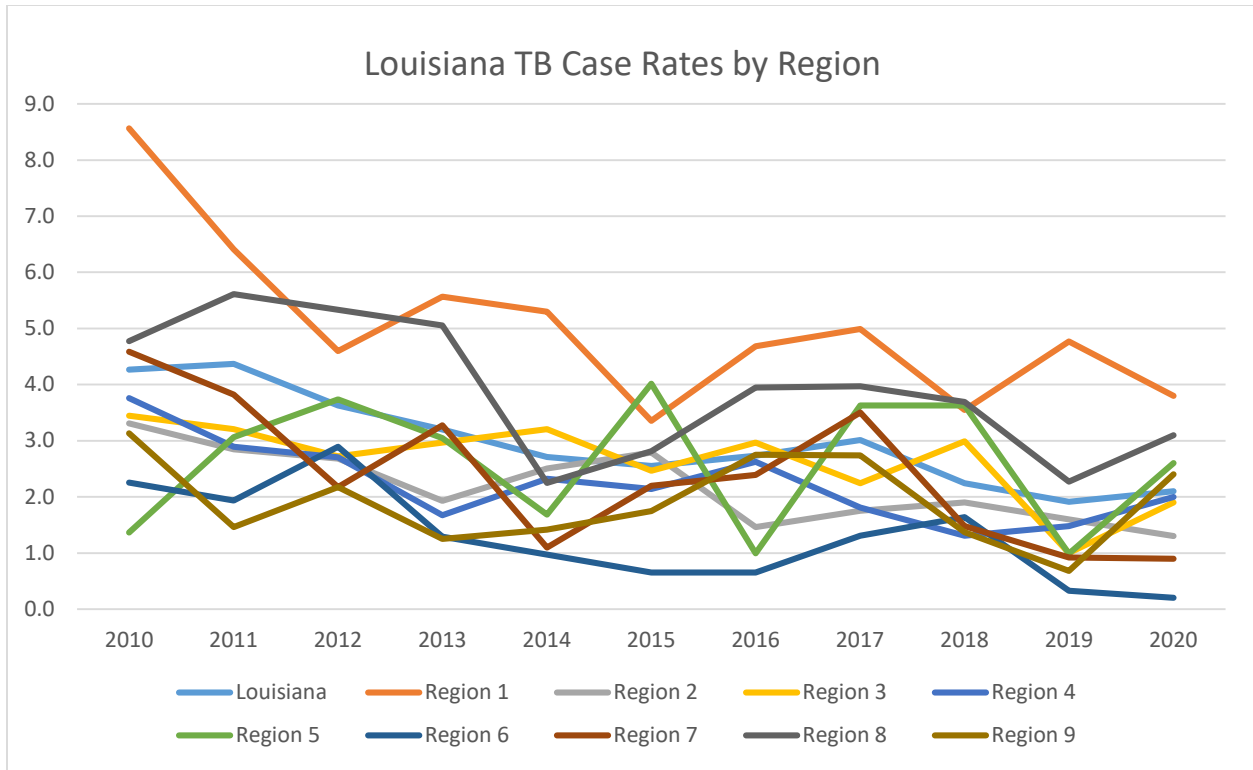


Figure 3. Louisiana TB case rates, number of cases per 100,000 population, by OPH region for 2010 through 2020.

TB by Sex

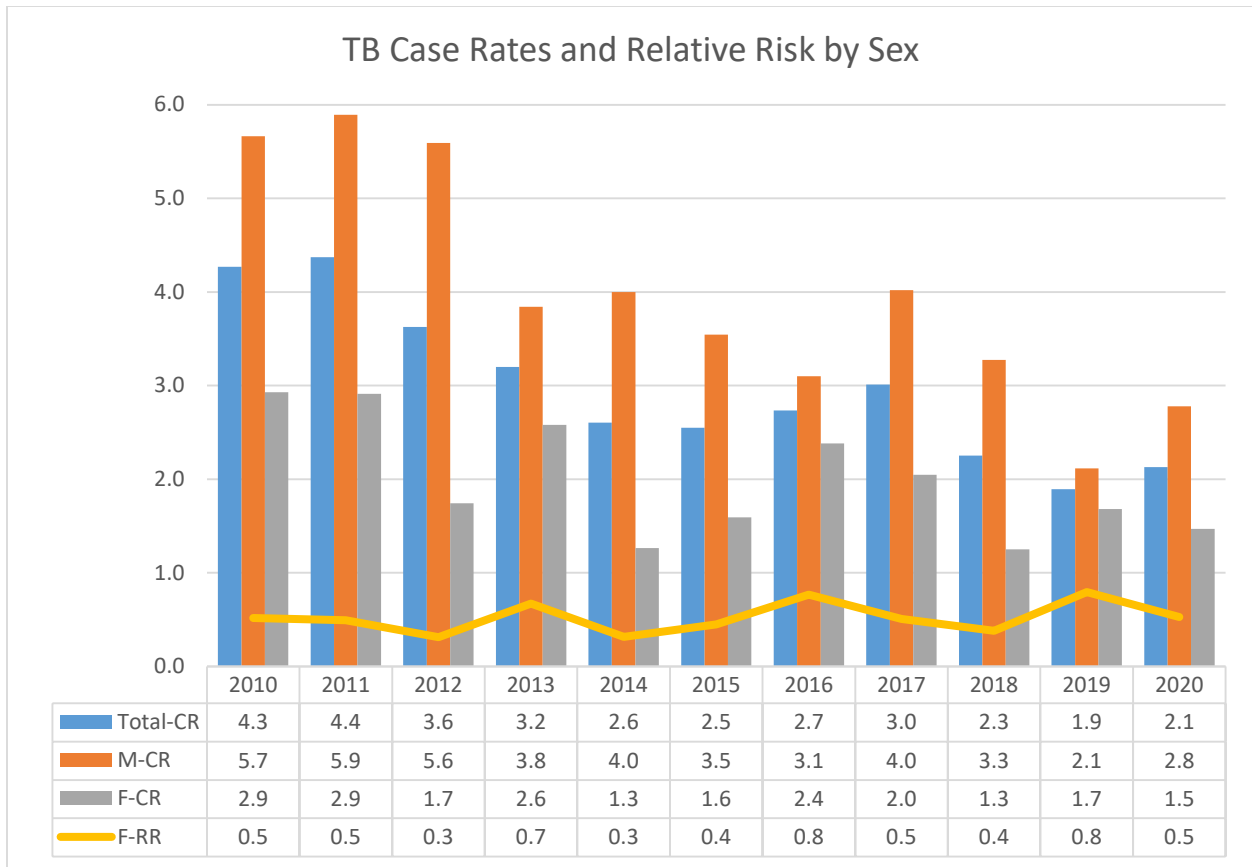


Figure 4. Total, male, and female case rates, number of cases per 100,000 population, (CR) and relative risk, female case rate relative to male case rate (RR) for Louisiana from 2010-2020.

TB by Race and Ethnicity

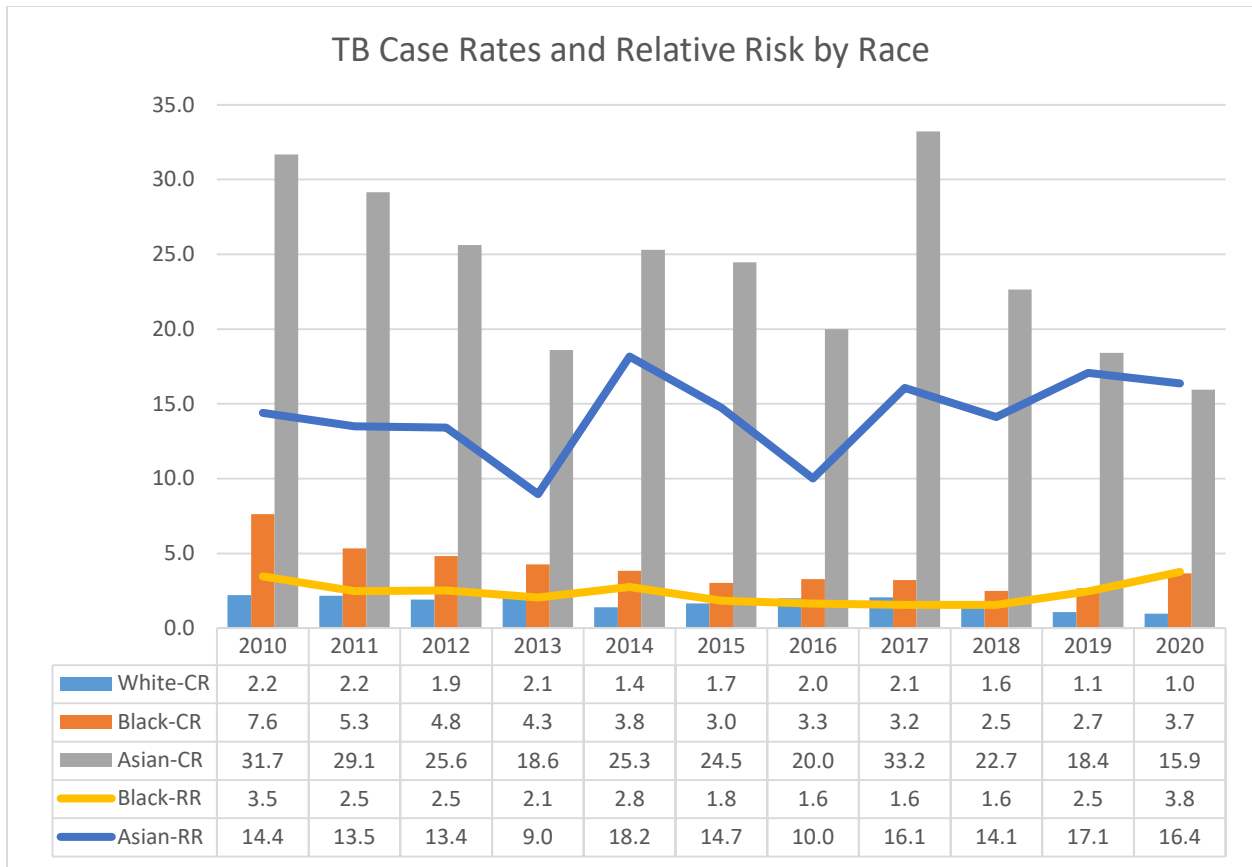


Figure 5. White, Black (Black/African American), and Asian case rates, number of cases per 100,000 population (CR), and relative risk, risk relative to White case rate (RR), for Louisiana from 2010-2020.

Native Hawaiian or Other Pacific Islander and American Indian or Alaska Native were not included because there were only one and three cases for each group respectively over the 2010-2020 period.

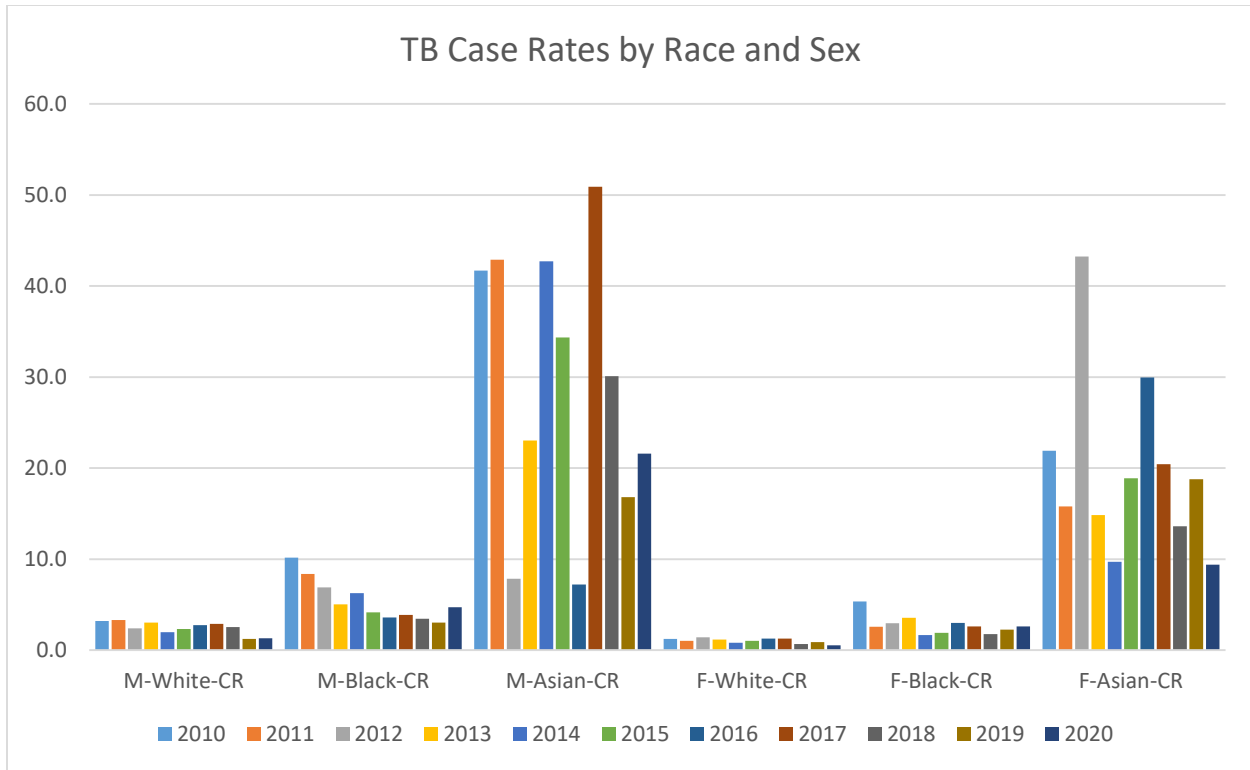


Figure 6. TB case rates, number of cases per 100,000 population (CR) by sex (M-male, F-female) and race (Black-Black/African American), for Louisiana from 2010-2020.

Table 1. TB case rates (CR) by sex (M-male, F-female) and race (Black-Black/African American), for Louisiana from 2010-2020.

Year	M-White-CR	M-Black-CR	M-Asian-CR	F-White-CR	F-Black-CR	F-Asian-CR
2010	3.2	10.2	41.7	1.2	5.3	21.9
2011	3.3	8.4	42.9	1.0	2.6	15.8
2012	2.4	6.9	7.8	1.4	2.9	43.2
2013	3.0	5.0	23.0	1.1	3.5	14.8
2014	2.0	6.3	42.7	0.8	1.6	9.7
2015	2.3	4.1	34.3	1.0	1.9	18.9
2016	2.7	3.6	7.2	1.3	3.0	29.9
2017	2.9	3.9	50.9	1.3	2.6	20.4
2018	2.5	3.4	30.0	0.7	1.7	13.6
2019	1.2	3.0	16.8	0.9	2.2	18.8
2020	1.3	4.7	21.6	0.5	2.6	9.4

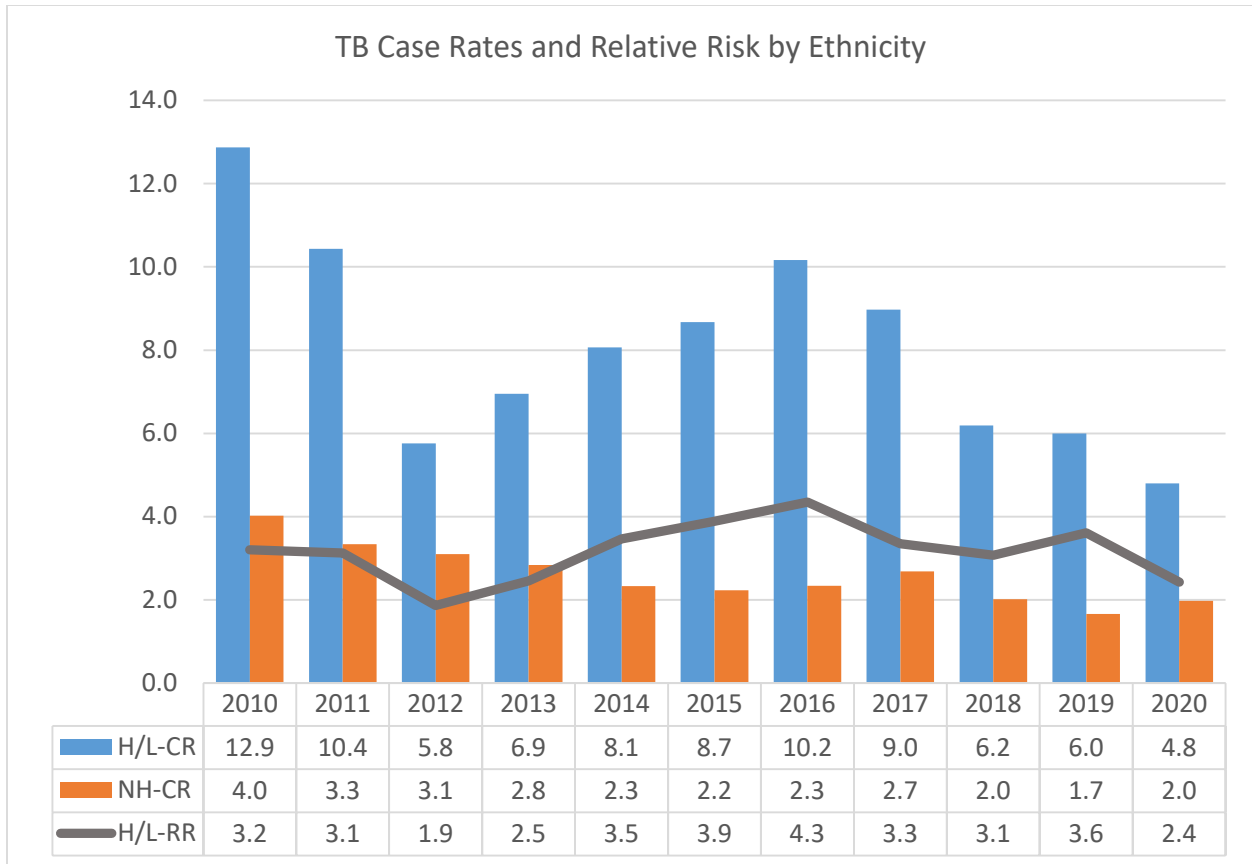


Figure 7. TB case rates, number of cases per 100,000 population (CR), and relative risk, risk relative to Non-Hispanic/Latino (RR), by ethnicity (H/L-Hispanic/Latino and NH-non-Hispanic/Latino) for Louisiana from 2010-2020.

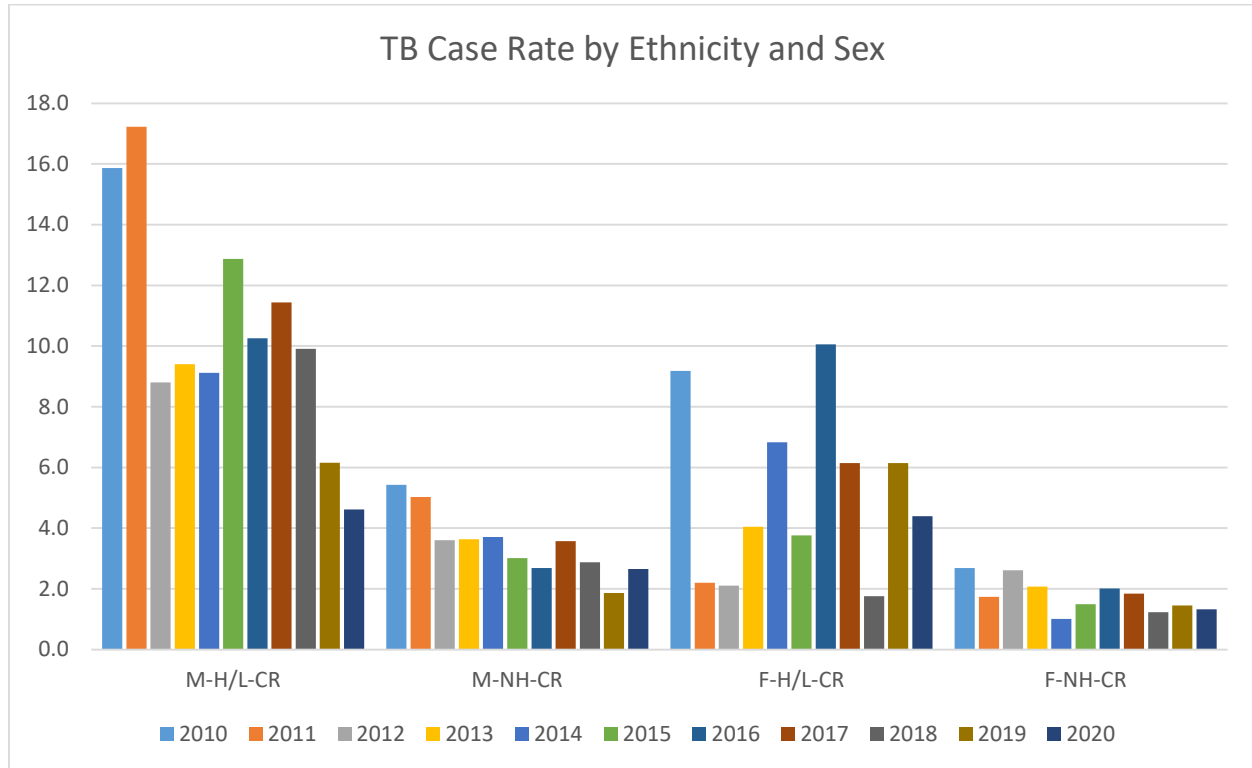


Figure 8. TB case rates, number of cases per 100,000 population (CR), by sex (M-male, F-female) and ethnicity (H/L-Hispanic/Latino, NH-Non-Hispanic/Latino) for Louisiana from 2010-2020.

Table 2. Case rates (CR) by sex (M-male, F-female) and ethnicity (H/L-Hispanic/Latino, NH-Non-Hispanic) for Louisiana from 2010-2020.

Year	M-H/L-CR	M-NH-CR	F-H/L-CR	F-NH-CR
2010	15.9	5.4	9.2	2.7
2011	17.2	5.0	2.2	1.7
2012	8.8	3.6	2.1	2.6
2013	9.4	3.6	4.0	2.1
2014	9.1	3.7	6.8	1.0
2015	12.9	3.0	3.8	1.5
2016	10.3	2.7	10.0	2.0
2017	11.4	3.6	6.1	1.8
2018	9.9	2.9	1.7	1.2
2019	6.2	1.9	6.1	1.5
2020	4.6	2.7	4.4	1.3

Louisiana had higher case rates among Whites and Asians each year from 2010-2019, with the exception of a lower case rate among Asians in Louisiana in 2013, compared to national rates. Case rates among Black/African Americans in Louisiana were lower than national rates during this period with the exception of 2010.

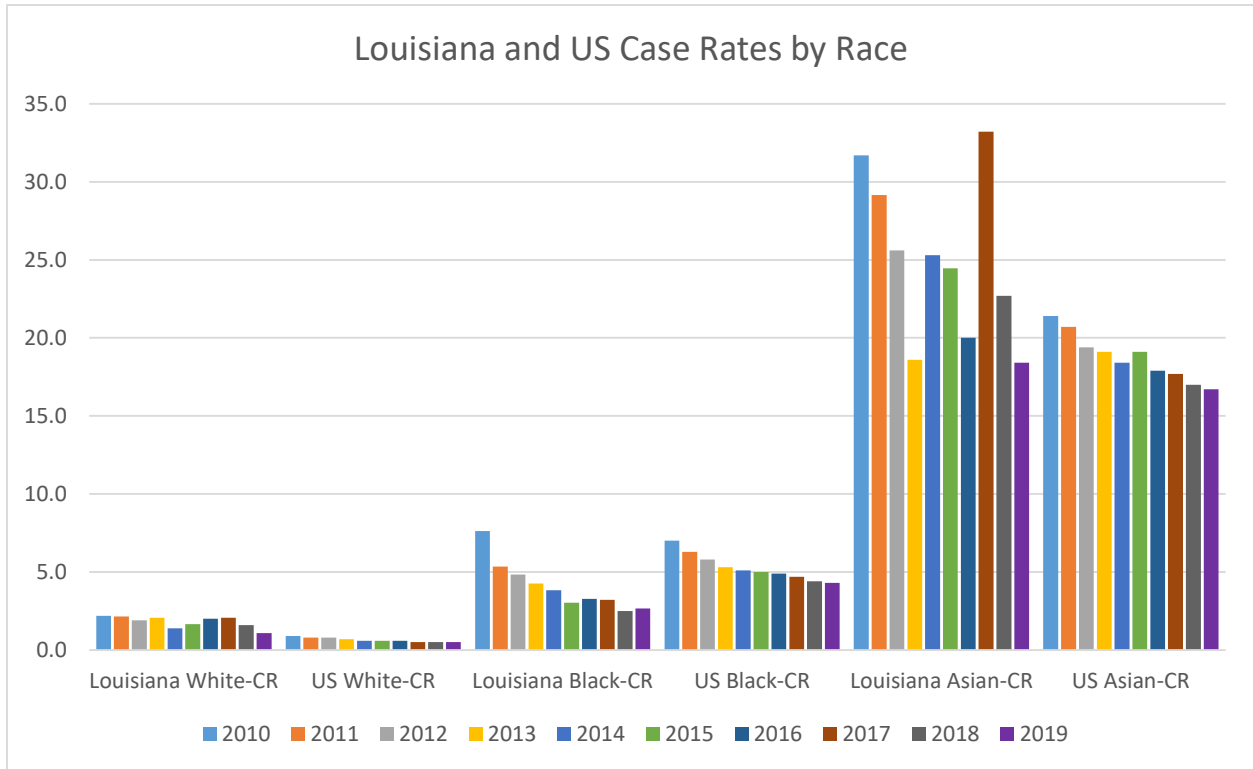


Figure 9. TB case rates, number of cases per 100,000 population (CR), by race (Black-Black/African American) and ethnicity (H/L-Hispanic/Latino, NH-Non-Hispanic/Latino) for Louisiana and the United States (US) from 2010-2019.⁵ National 2020 data were not published at the time of this report.

⁵ <https://www.cdc.gov/tb/statistics/reports/2019/table2.htm>

TB by Age

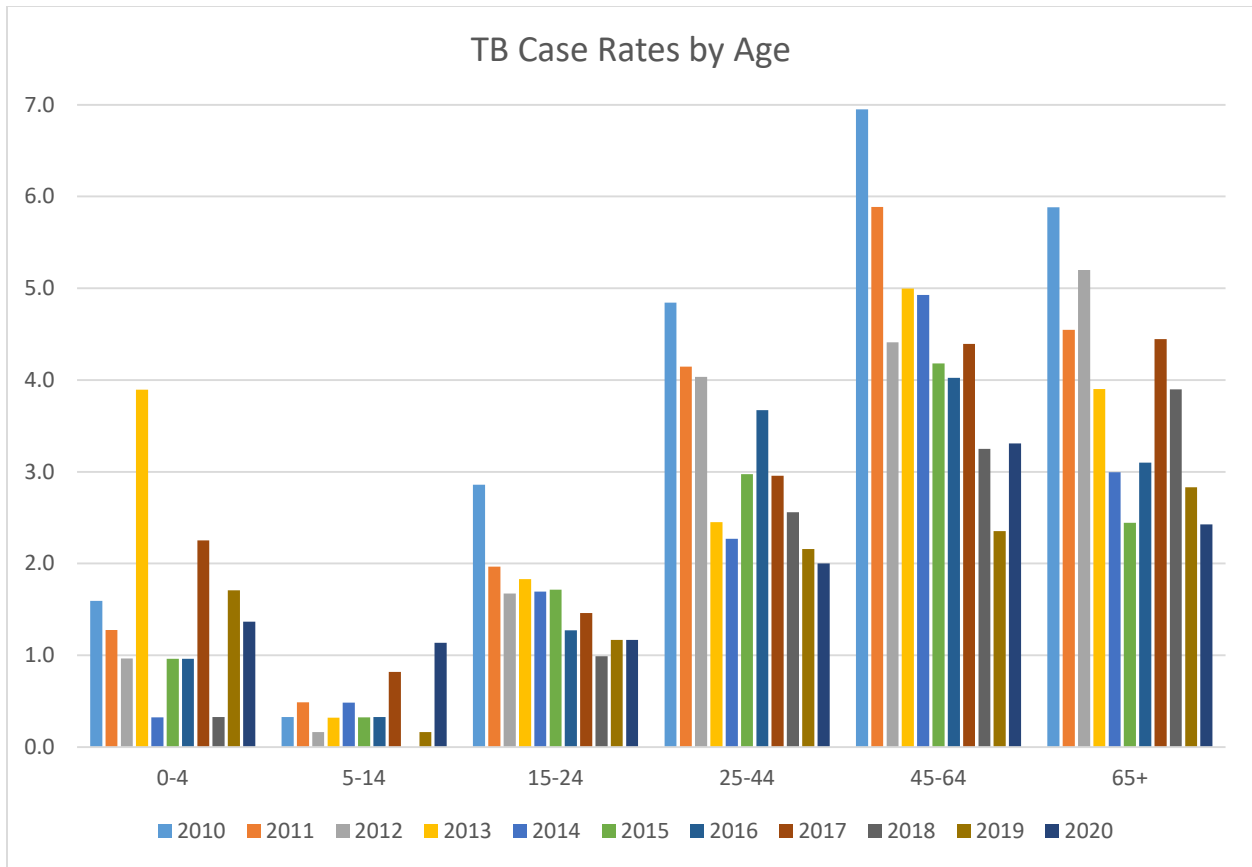


Figure 10. TB case rates, number of cases per 100,000 population, by age group for Louisiana from 2010-2020.

Table 3. TB case rates by age for Louisiana from 2010-2019.

Year	0-4	5-14	15-24	25-44	45-64	65+
2010	1.6	0.3	2.9	4.8	7.0	5.9
2011	1.3	0.5	2.0	4.1	5.9	4.5
2012	1.0	0.2	1.7	4.0	4.4	5.2
2013	3.9	0.3	1.8	2.5	5.0	3.9
2014	0.3	0.5	1.7	2.3	4.9	3.0
2015	1.0	0.3	1.7	3.0	4.2	2.4
2016	1.0	0.3	1.3	3.7	4.0	3.1
2017	2.3	0.8	1.5	3.0	4.4	4.4
2018	0.3	0.0	1.0	2.6	3.2	3.9
2019	1.7	0.2	1.2	2.2	2.4	2.9
2020	1.4	1.1	1.2	2.0	3.3	2.4

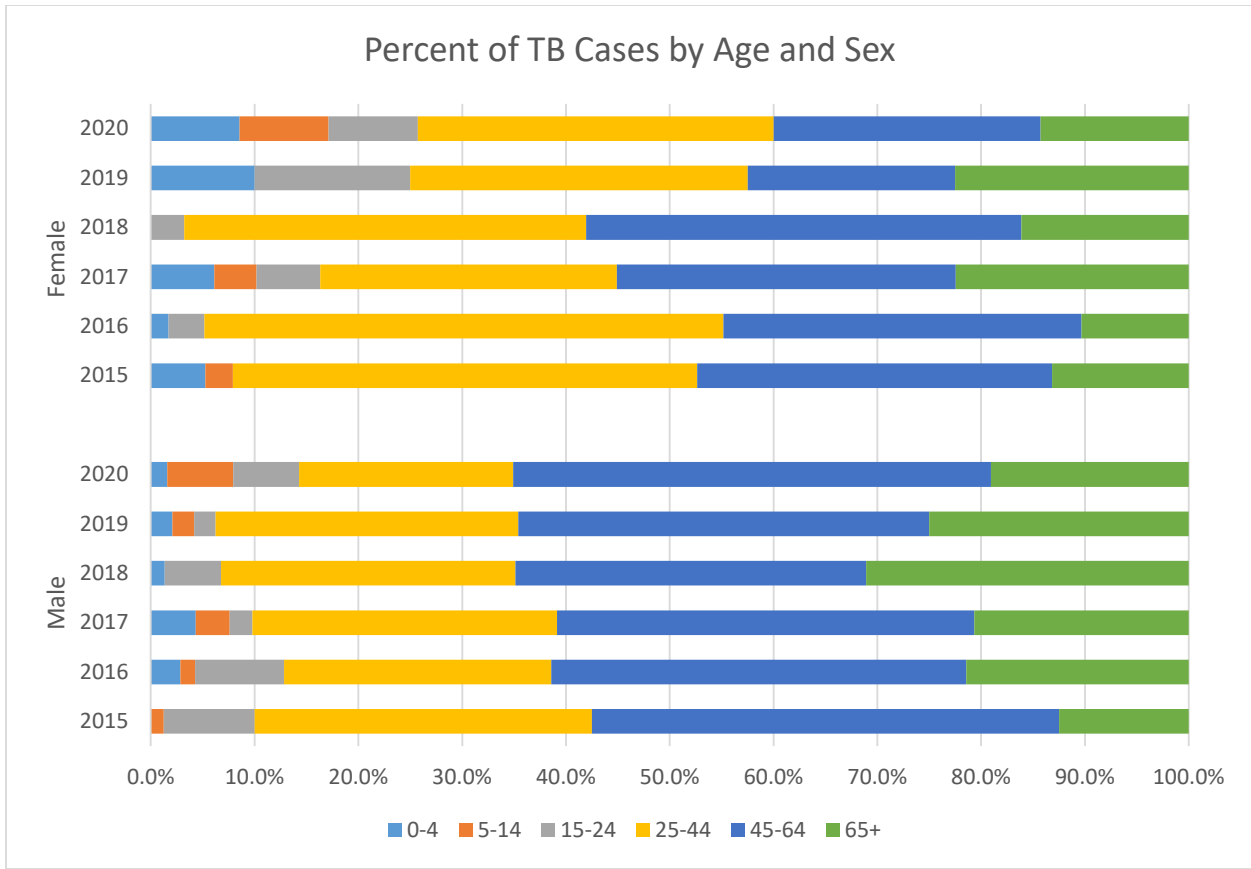


Figure 11. Percent of TB cases by sex and age group for Louisiana from 2015-2020.

TB by Country of Origin

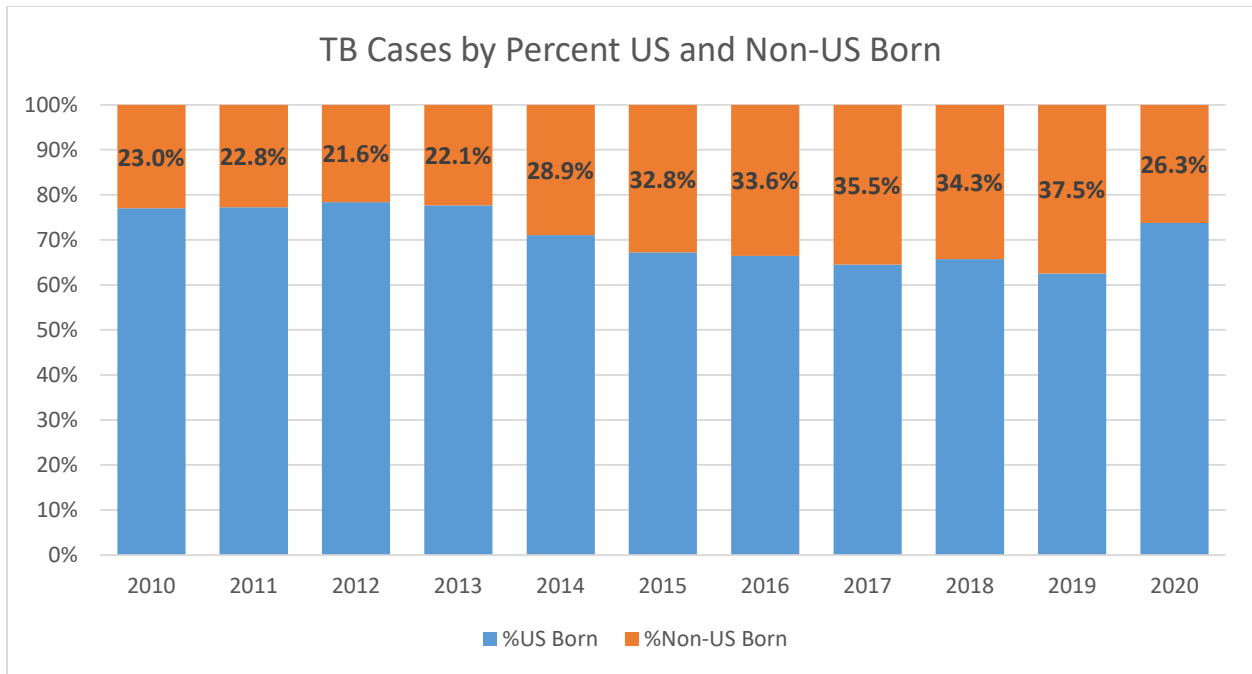


Figure 12. Percent of TB cases by US and Non-US Born for Louisiana from 2010-2020.

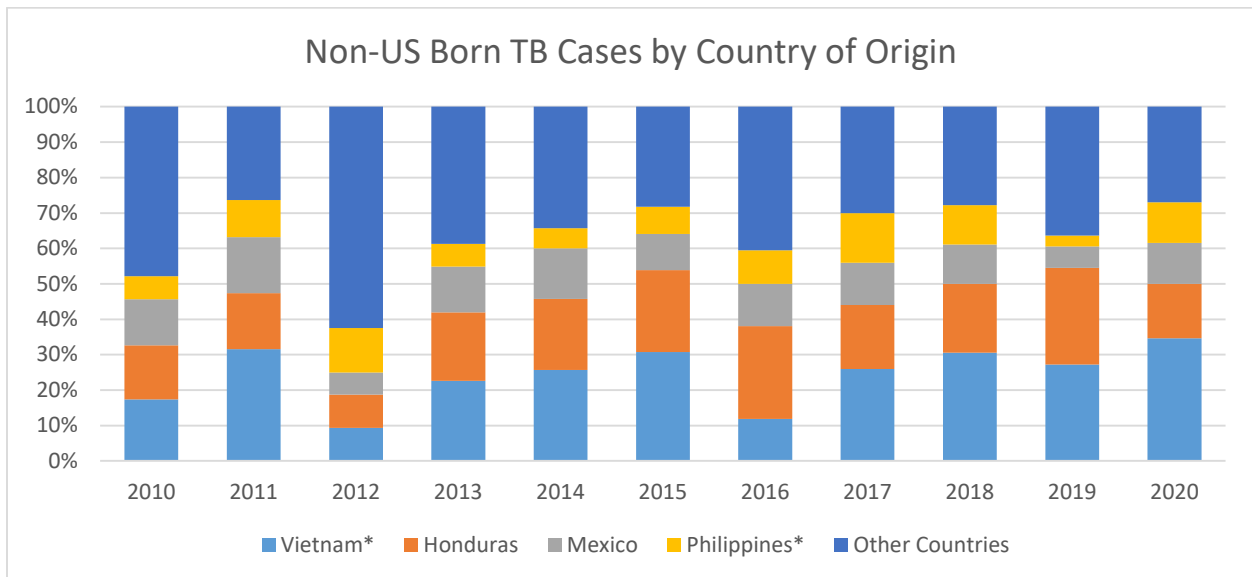


Figure 13. Percent of Non-US born TB cases by country of origin (birth) for Louisiana from 2010-2020. *Denotes one of the 30 high burden TB countries according to the STOP TB Partnership.⁶

⁶ <http://www.stoptb.org/countries/tbdata.asp>

The percentage of non-US born cases in Louisiana was lower than the national percentage of non-US born cases each year from 2010-2020, but the rate of increase was higher for Louisiana (2.4%) than the US (1.5%).

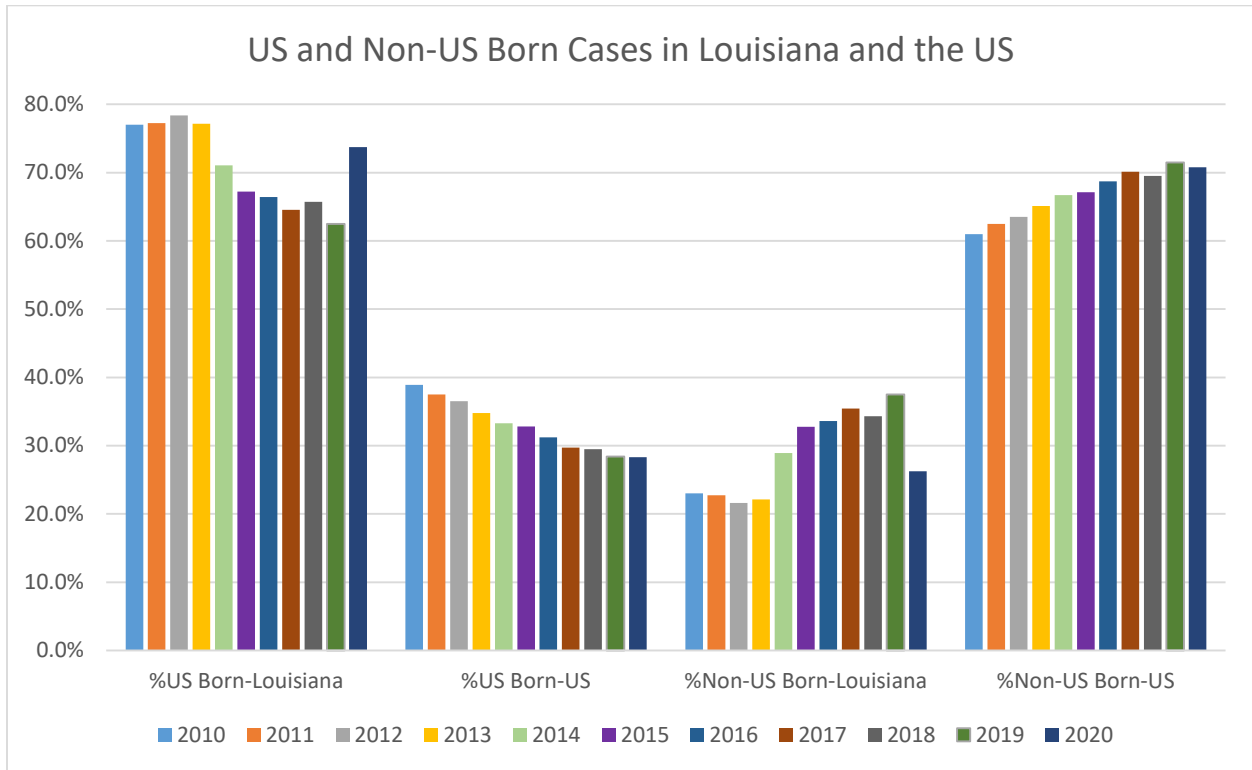


Figure 14. TB cases by country of origin for Louisiana and the US from 2010-2020.⁷

⁷ <https://www.cdc.gov/tb/statistics/reports/2019/table5.htm>

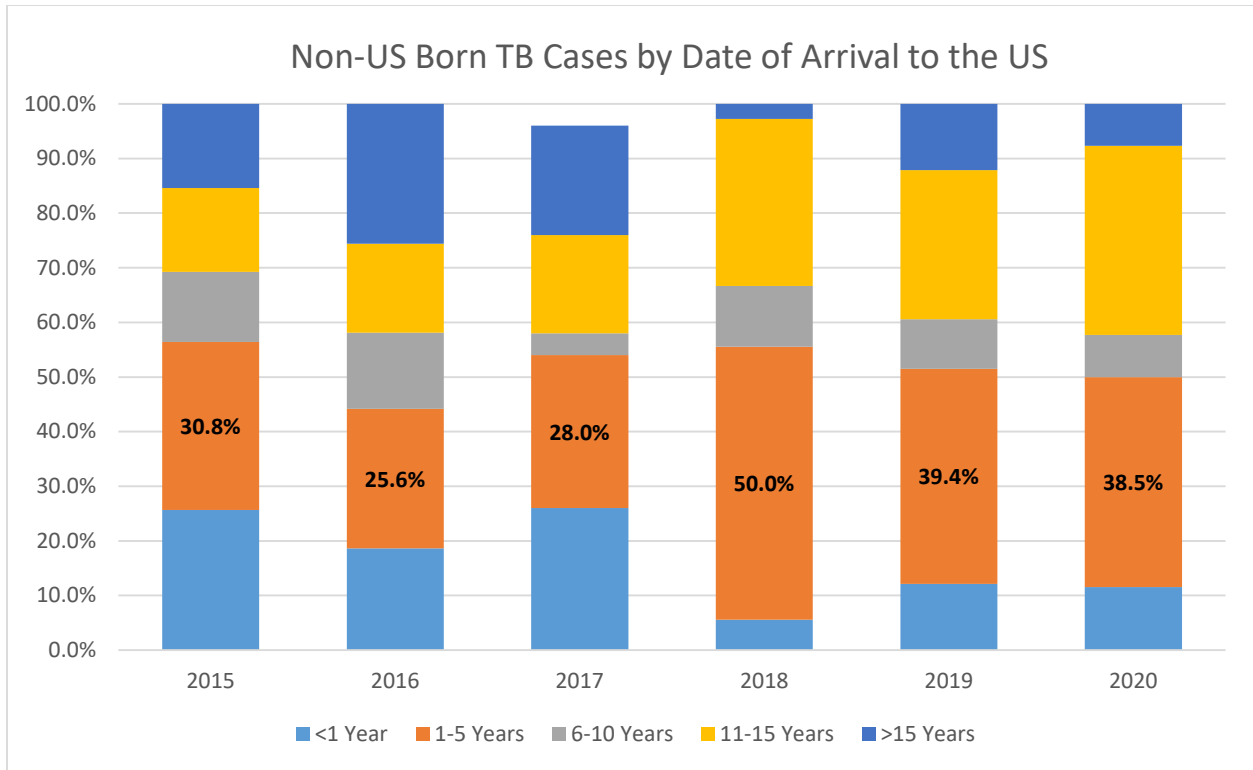


Figure 15. Percent of Non-US born TB cases by date of arrival to the United States prior to diagnosis for Louisiana from 2015-2020.

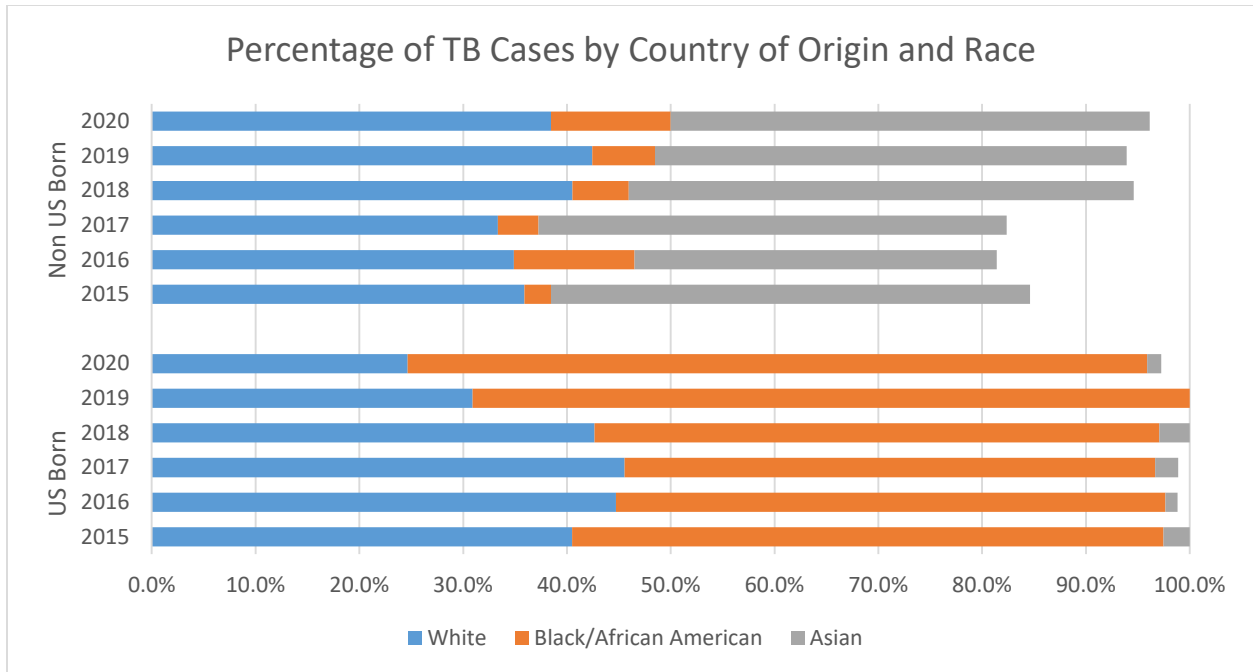


Figure 16. Percentage of TB cases by race for US and Non-US born cases in Louisiana from 2015-2020.

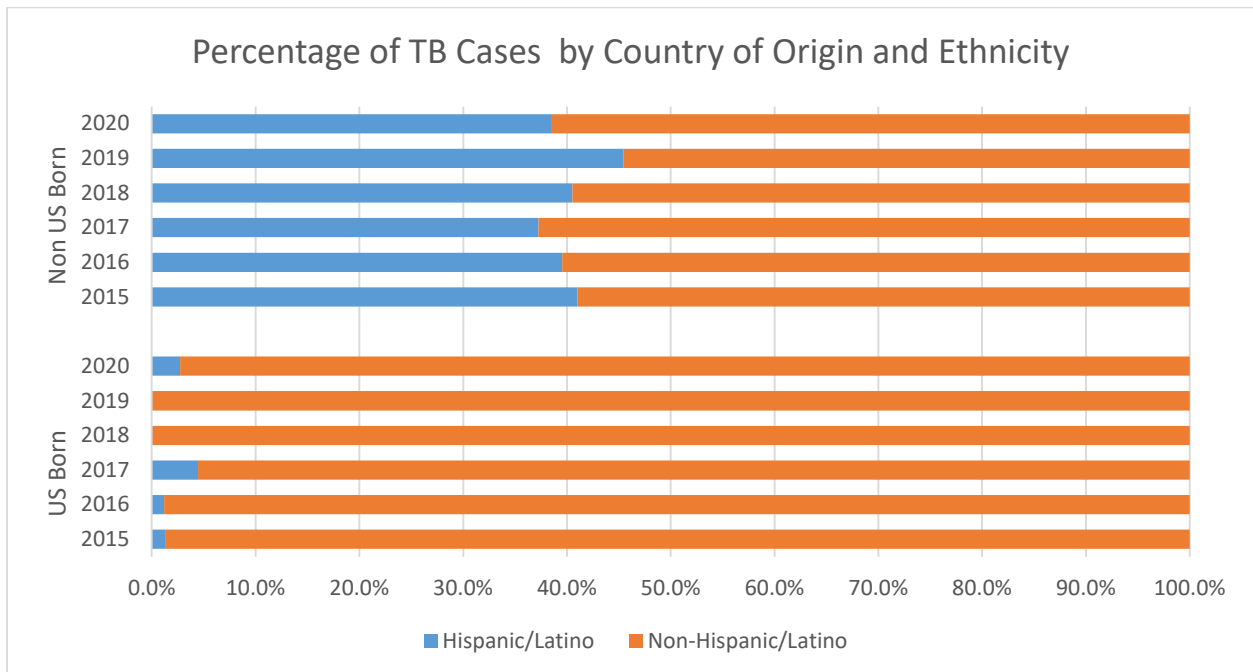


Figure 17. Percent of TB cases by ethnicity for US and Non-US born cases in Louisiana from 2015-2020.

TB by Risk Factors

The risk factors analyzed in this report were HIV co-infection, diabetes co-infection, homelessness, residing in a correctional facility (local, state, or federal jail or prison), injection and non-injection drug use, and excessive alcohol consumption. Homelessness, injection drug use, non-injection drug use, and alcohol consumption occurred within one year prior to TB diagnosis. Excessive alcohol consumption is defined as binge drinking on five or more days in a 30-day period.

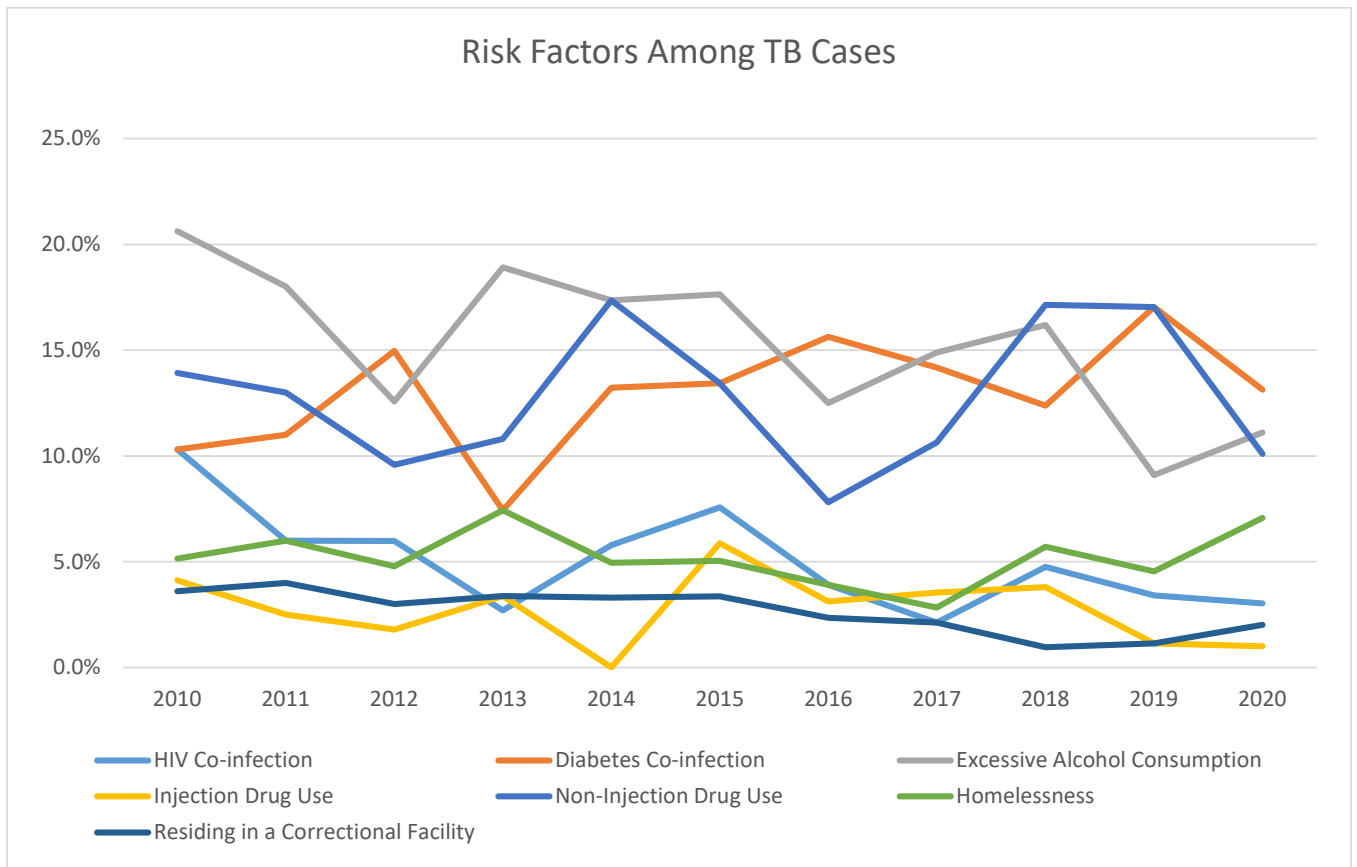


Figure 18. Percent of TB cases with risk factors in Louisiana from 2010-2020. Correctional facilities include local jail, state prison, and federal prison. Residing in a correctional facility occurred at time of diagnosis. Excessive alcohol consumption is defined as binge drinking on five or more days in a 30-day period. Homelessness, injection drug use, non-injection drug use, and alcohol consumption occurred within one year prior to TB diagnosis

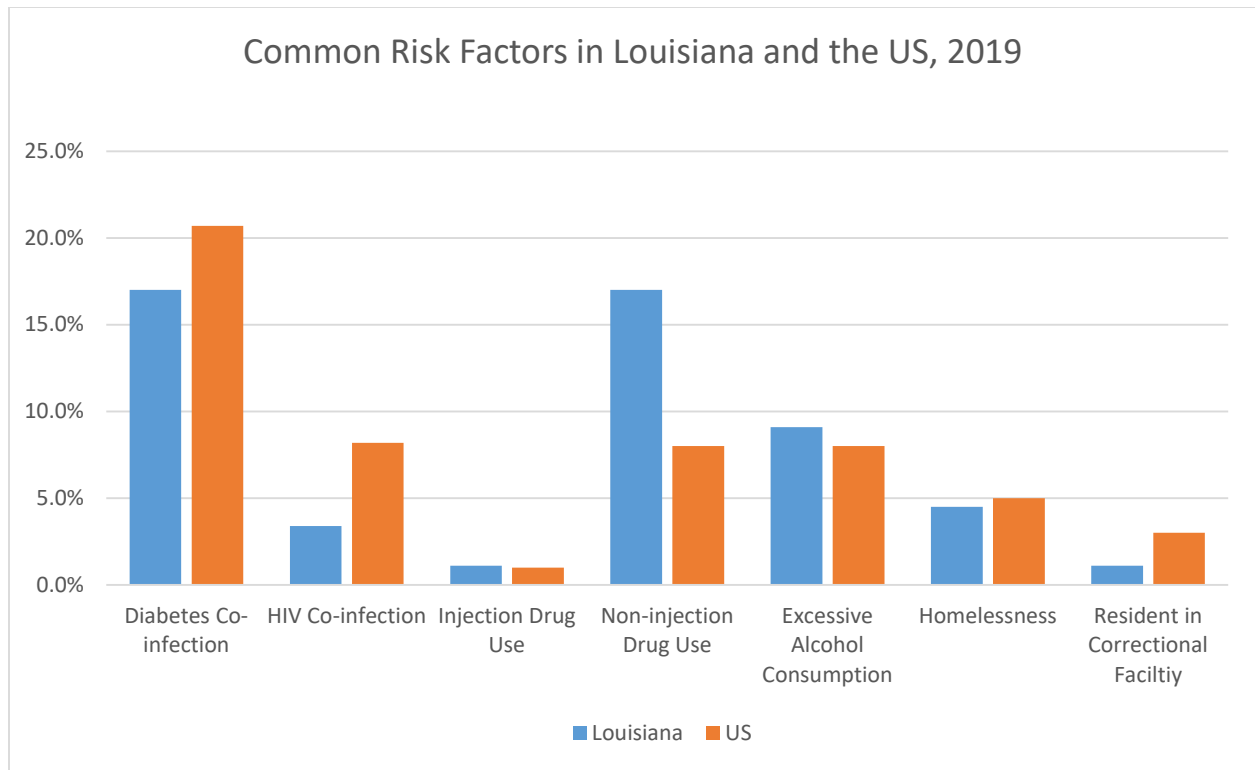


Figure 19. Percent of TB cases with common risk factors in Louisiana and the United States in 2019. National data for 2020 was not published at the time of this report.

TB by Site of Disease

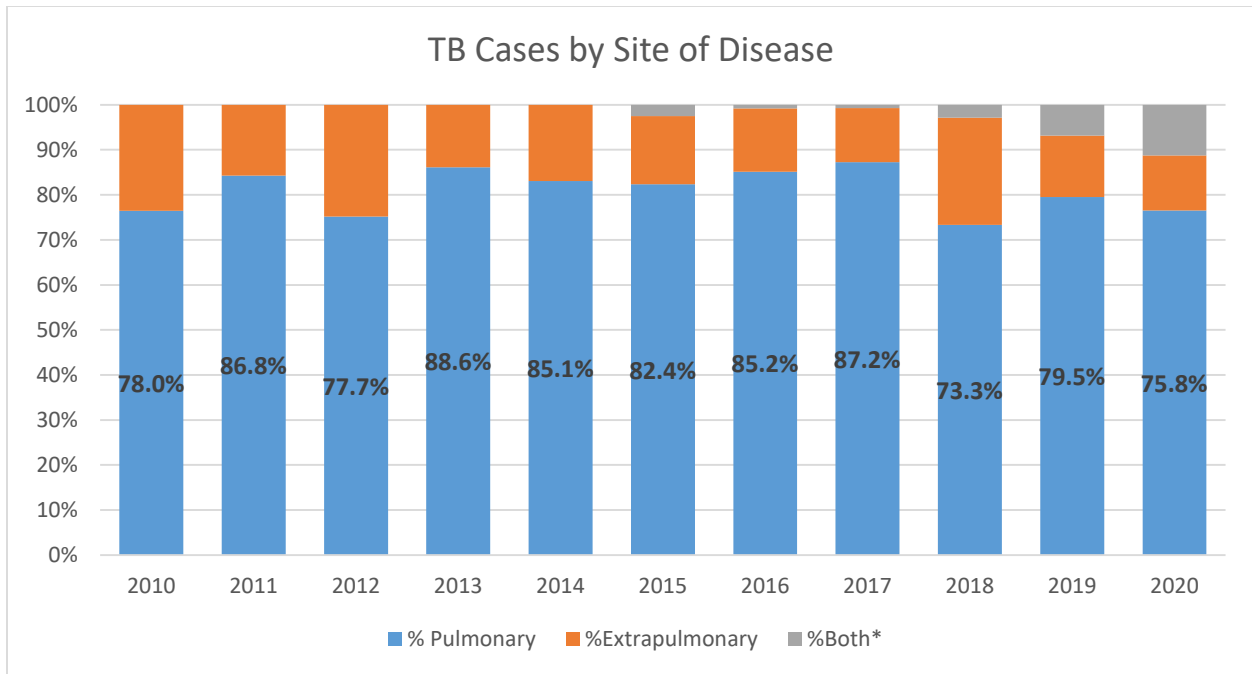


Figure 20. Percent of TB cases by pulmonary, extrapulmonary, and both for Louisiana from 2010-2020. *Official classification of site of disease as "both" began in 2015.

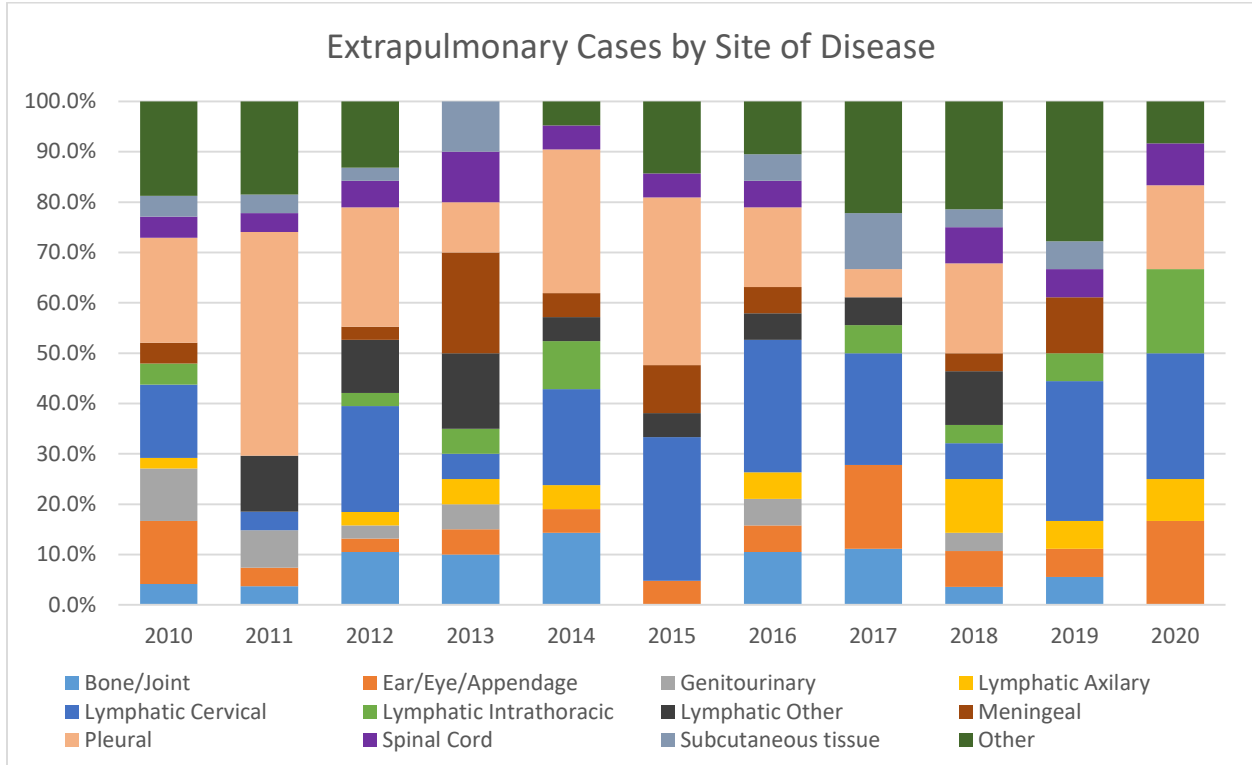


Figure 21. Percent of extrapulmonary TB cases by site of disease for Louisiana from 2010-2020.

TB Cases by Confirmation Type

In 2020, Louisiana had the lowest percentage of culture confirmed cases and highest percentage of NAAT positive, Clinical, and Verified by Provider Diagnosis confirmed cases since 2015. This could be a contributing factor to the increase in cases seen in Louisiana in 2020, compared to the significant decrease observed nationally.

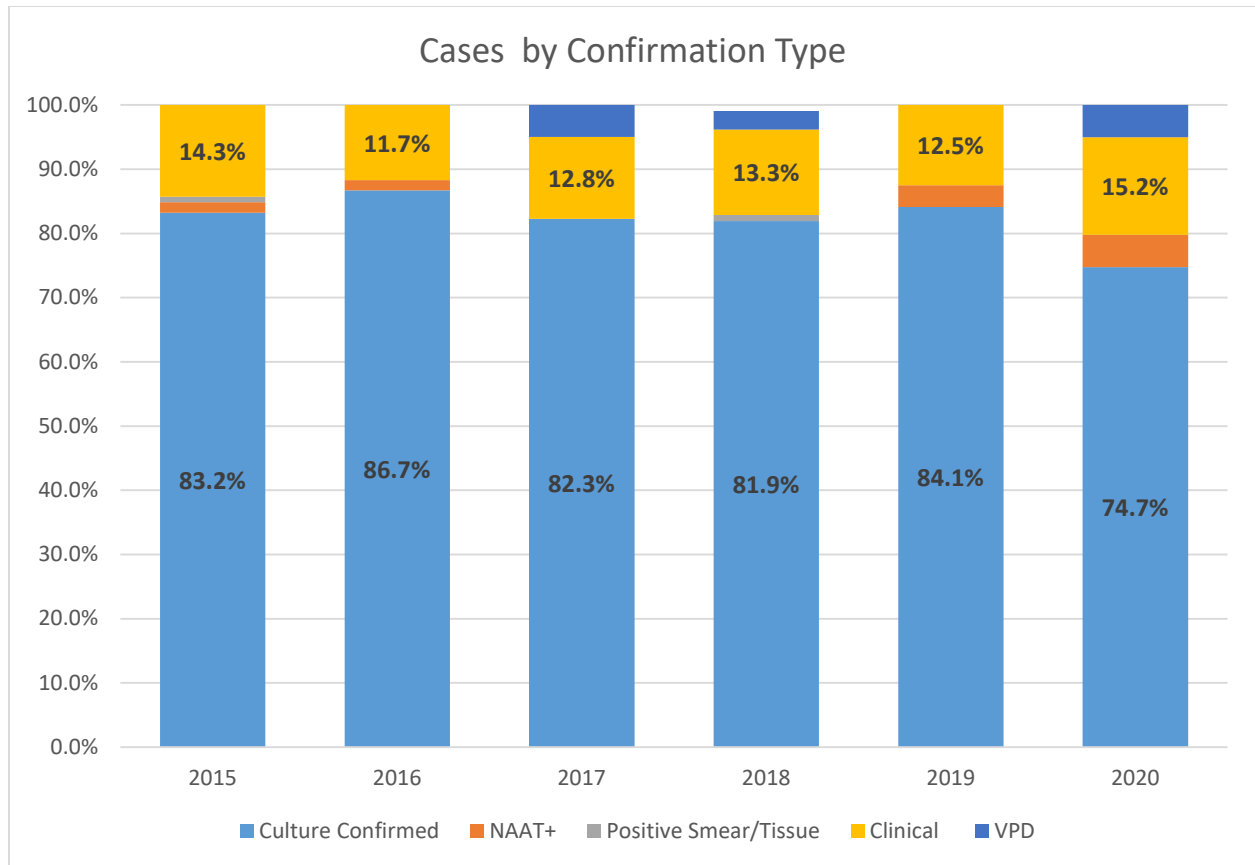


Figure 22. Percent of TB cases by type of diagnostic confirmation testing for Louisiana from 2015-2020.

TB Cases by Reason for Evaluation

In 2020, Louisiana had the highest percentage of cases evaluated as part of a contact investigation during the 2015 to 2020 period.

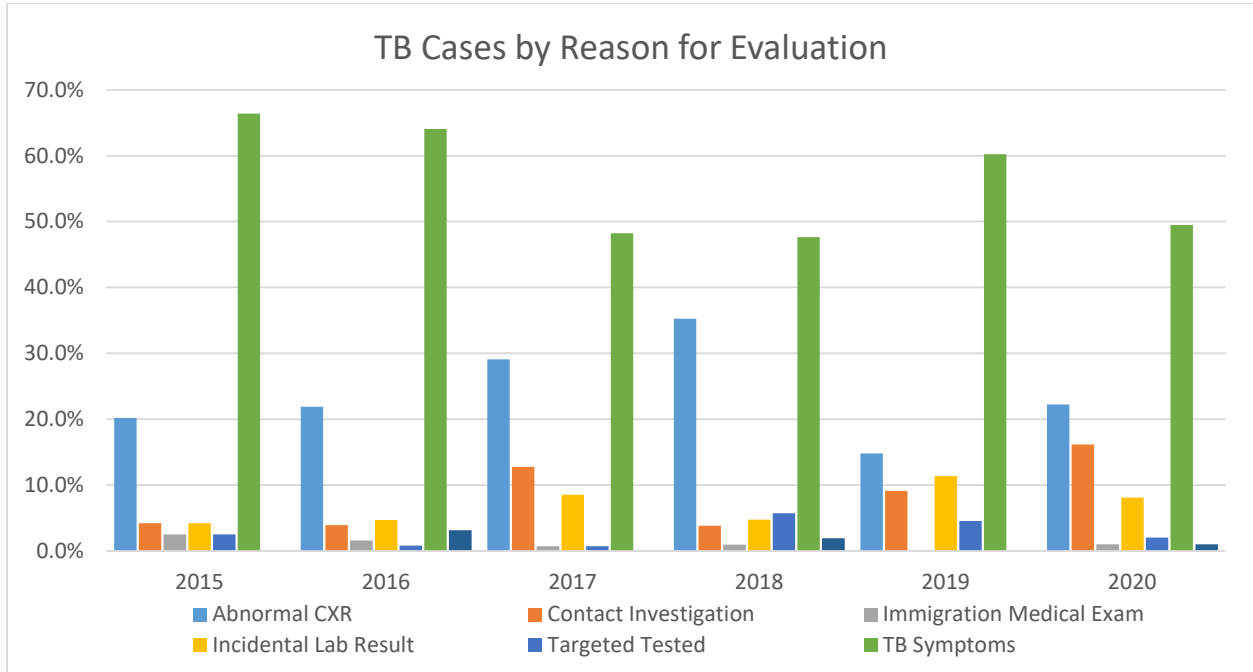


Figure 23. Percent of TB cases by reason for evaluation for Louisiana from 2015-2020.

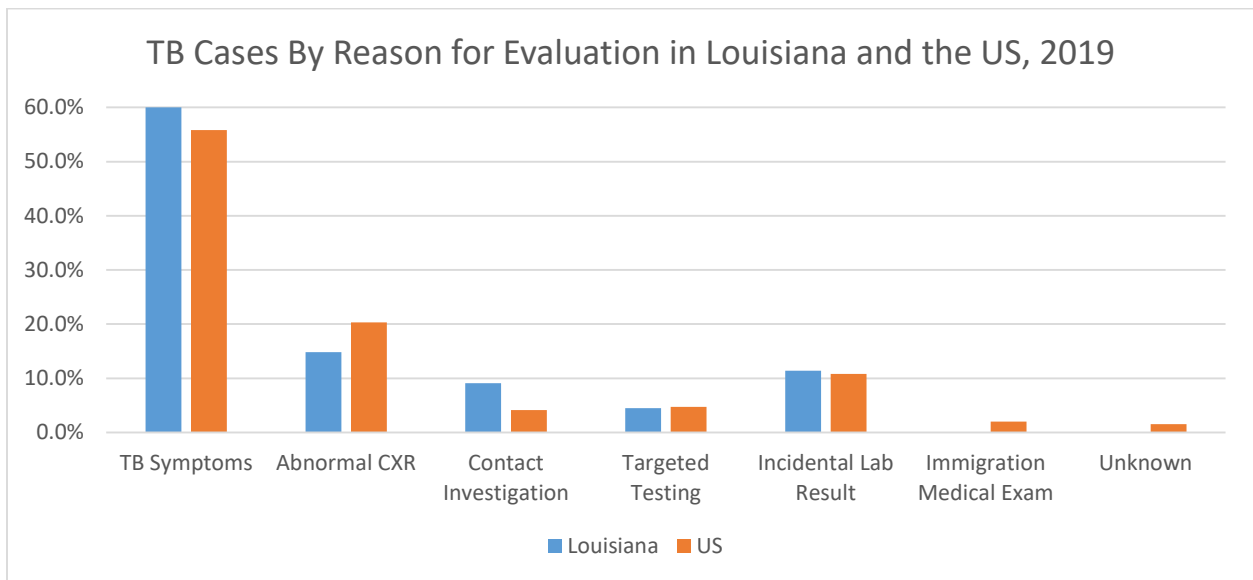


Figure 24. Percent of TB cases by reason for evaluation in Louisiana and the US in 2019. National data for 2020 were not published at the time of this report.

TB Case Outcomes

Sputum culture conversion is a standard benchmark for treatment progress in TB cases. Success sputum culture conversion is defined as the percentage of sputum culture positive cases converting to sputum culture negative within 60 days of treatment initiation. Cases deceased at diagnosis, deceased during the first 60 days, or moving out of the country during the first 60 days of treatment are not included.

Sputum culture conversion is also used to help determine treatment length for pulmonary TB cases. Successful treatment completion is measured as the percentage of cases for whom 12 months of therapy is recommended, who complete therapy within that time frame⁸.

Due to the time frame requirements sputum culture conversion and genotype surveillance coverage are only analyzed for TB case through 2019 and treatment completion is only analyzed for cases through 2018.

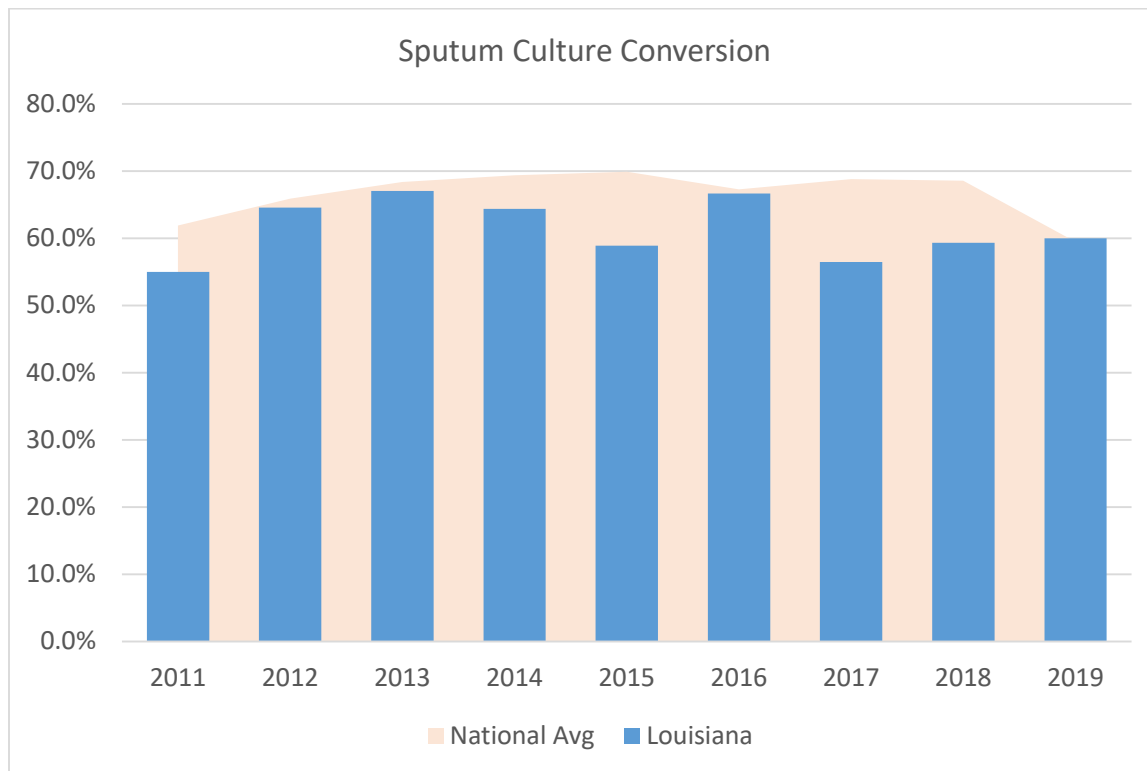


Figure 25. Percent of TB cases converting sputum culture in 60 days in Louisiana and the national average from 2011-2019.

⁸ <https://www.cdc.gov/tb/programs/evaluation/indicators/default.htm>

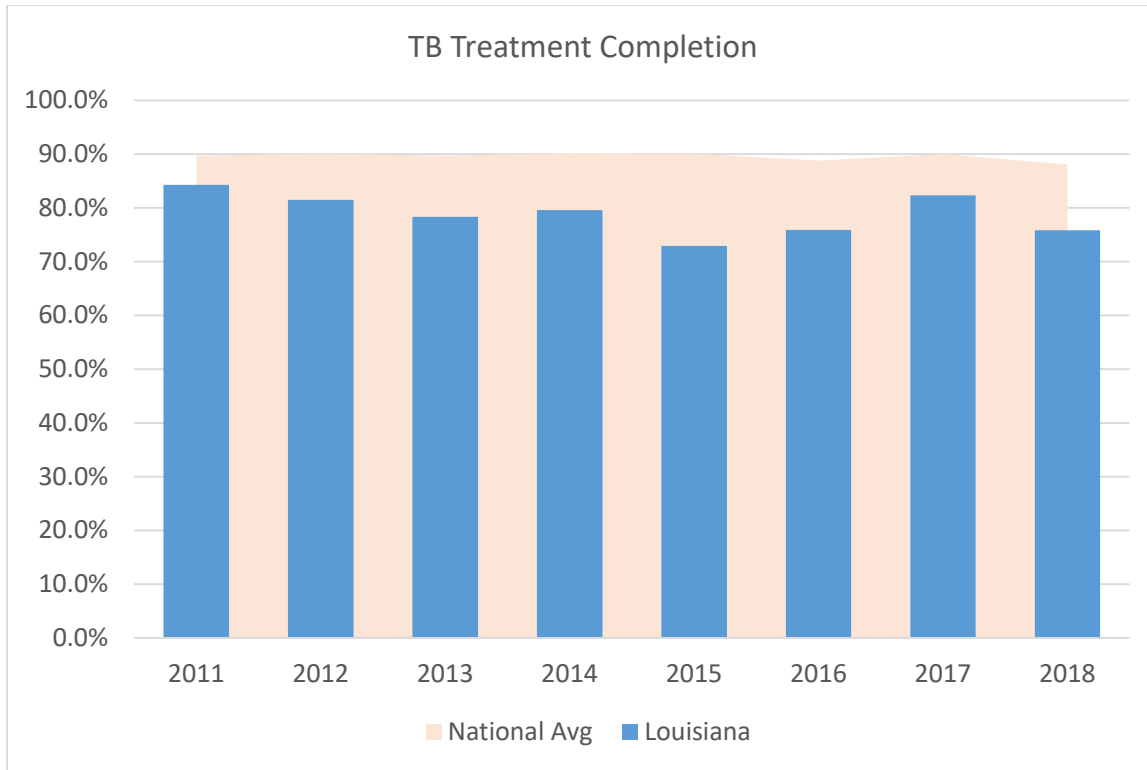


Figure 26. Percent of cases meeting the criteria for treatment completion within 12 months in Louisiana and the national average for 2011-2018.

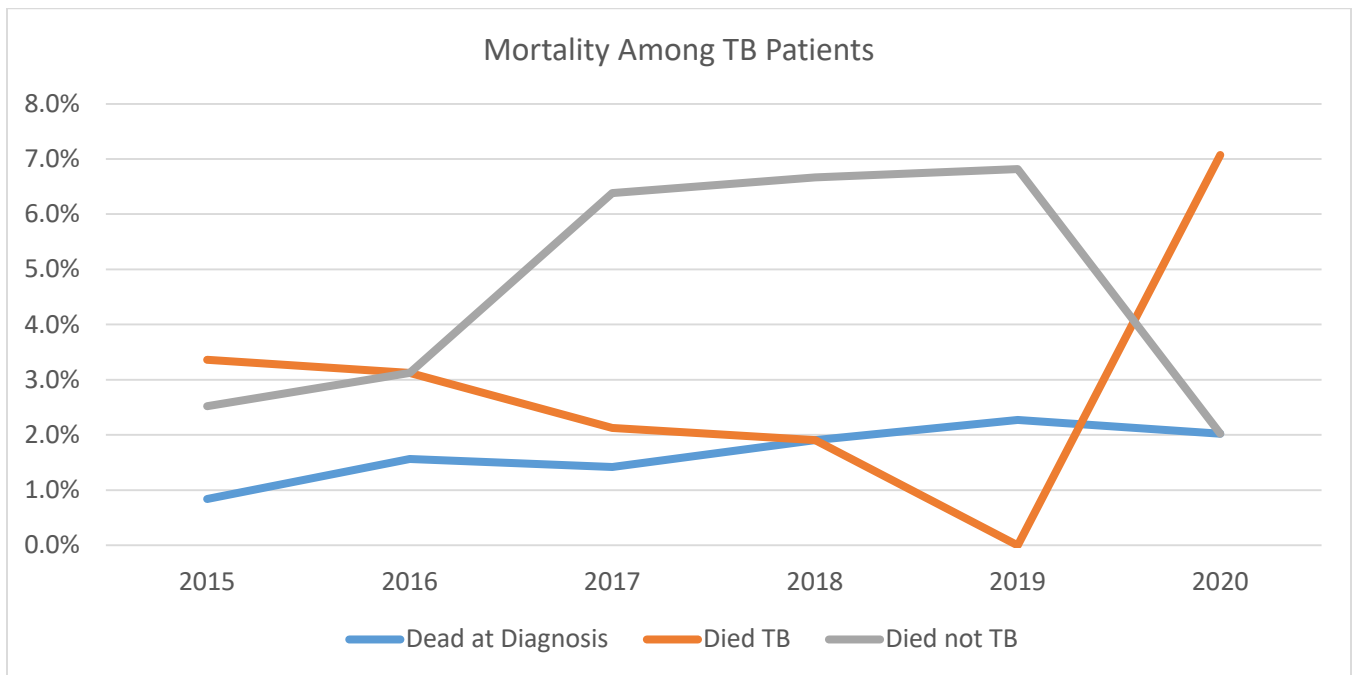


Figure 27. Percent of TB cases deceased at diagnosis and cases deceased at diagnosis or during treatment, with primary cause of death related to TB or not related to TB for Louisiana from 2015-2020

Genotype Surveillance

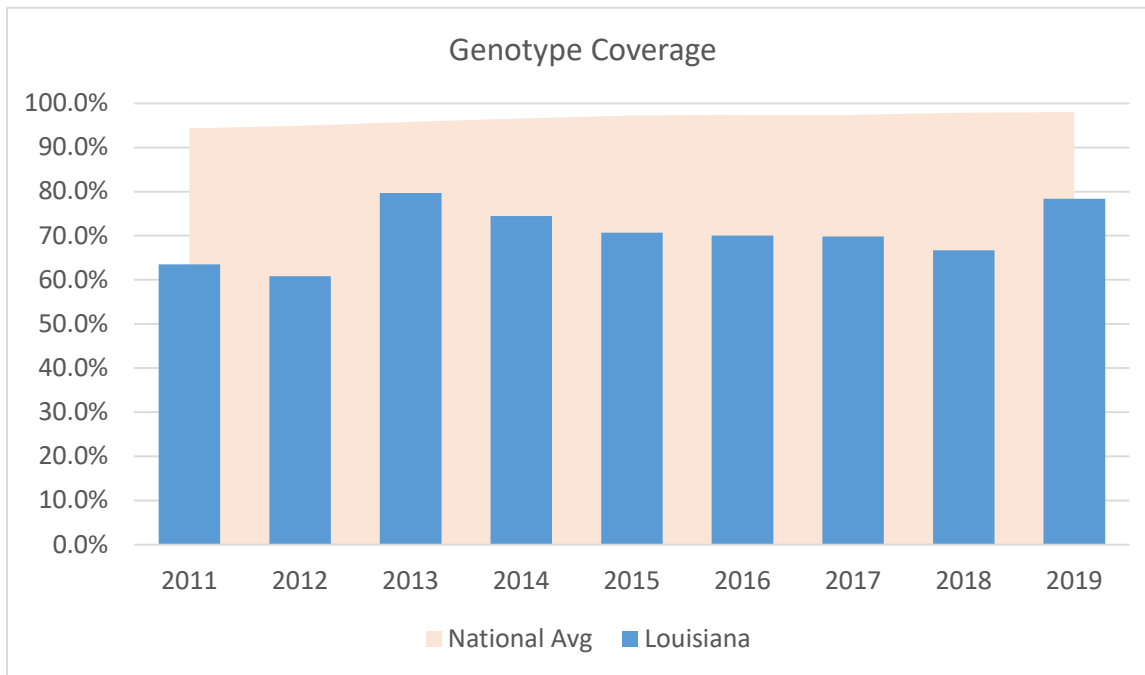


Figure 28. Percent of culture positive TB cases with genotype results in Louisiana and the national average from 2011-2019.

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