2024 Tuberculosis in Iowa

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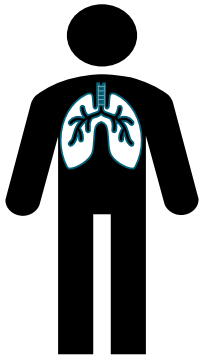
Tuberculosis

Iowa: 2024

What is Tuberculosis (TB)?

Tuberculosis (TB) is a disease caused by a bacterium called ***Mycobacterium tuberculosis***. It primarily attacks the lungs but can affect any part of the body including the kidney, spine, and brain.



47

TB cases reported in Iowa in 2024

The mission of the TB Control Program is to eliminate TB disease in Iowa.

TB Disease vs. Inactive TB infection:

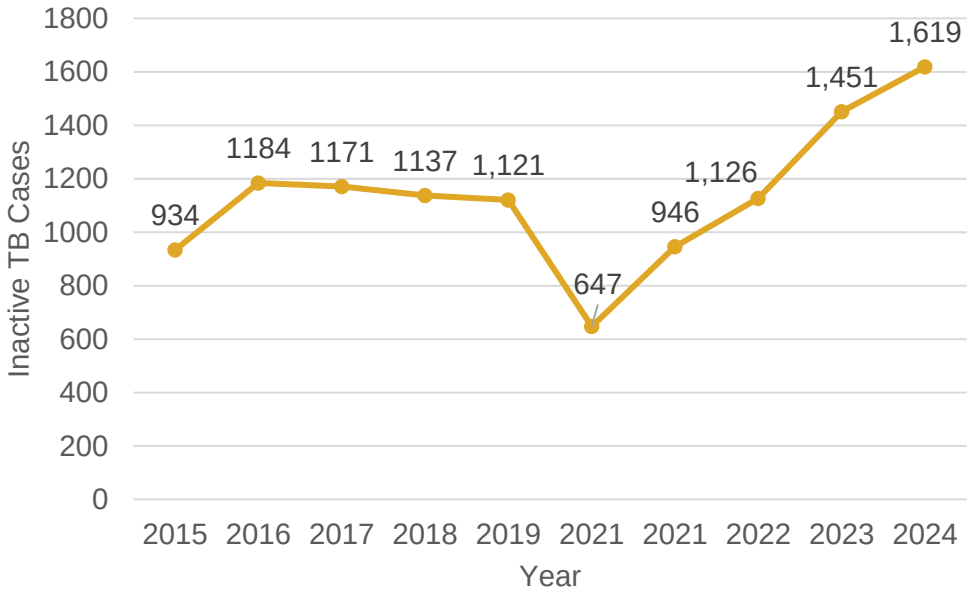
Individuals with **TB disease** have active TB germs that multiply and destroy tissue in their body. Individuals usually experience symptoms and are capable of spreading the germs to others if the disease is in the lungs or throat.

Individuals with **inactive TB infection** have TB germs that are inactive. These individuals do not experience symptoms and cannot spread the TB germs to others. Although inactive infection can develop into TB, treatments are available to prevent inactive TB from progressing to TB disease.

1 in 10

According to the CDC, on average, **1 in 10 people with inactive TB infection who do not get treatment** will become sick with TB disease in the future.

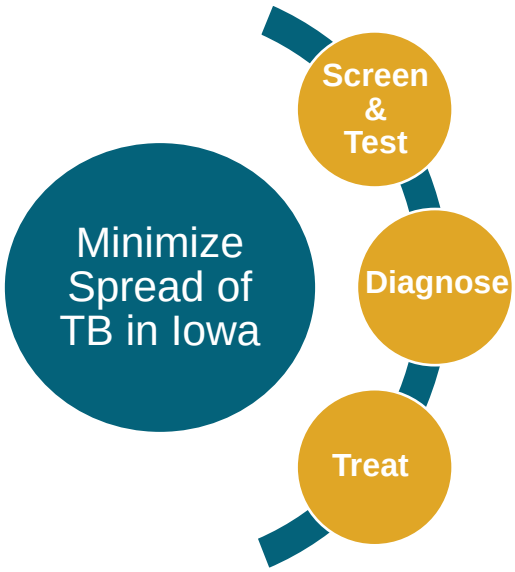
Iowa Inactive Tuberculosis Infections by Year 2015-2024



Although inactive TB is not a reportable condition in Iowa, the majority of providers use the program to manage the inactive TB regimen for their patients. In 2020, the global pandemic resulted in the program recording the lowest count of inactive TB cases during the decade at 647. However, in 2024 there were 1,619 inactive TB cases reported, the highest number over the last decade.

How does TB Spread?

TB spreads through the air from person to person. An individual becomes infected by breathing in the bacteria from an infected person.



Collaboration with clinicians and local public health agencies (LPHAs) is essential to minimizing the spread of TB in Iowa.

Signs and Symptoms

TB Disease:

Symptoms of TB disease depend on the site of disease and where the bacteria is growing. TB bacteria usually grows in the lungs (Pulmonary TB) and can cause symptoms such as:

- **bad cough that lasts 3 weeks or longer**
- **chest pain**
- **coughing up blood or sputum** (phlegm from deep inside the lungs)

Other symptoms of TB disease include:

- weakness or fatigue
- unexplained weight loss
- no appetite
- chills
- fever
- drenching night sweats

Inactive TB Infection:

People who have inactive TB infection do not have any symptoms and do not feel sick. They cannot spread TB to others.

IOWA TB RISK FACTORS

- Persons who have immigrated from areas of the world with high rates of TB
- Close contacts of a person with infectious TB disease
- In both of these categories, ***'Think TB Over Pneumonia'*** when patients present with the classic symptoms of respiratory illness or have an abnormal chest x-ray.

TB Cases in Iowa

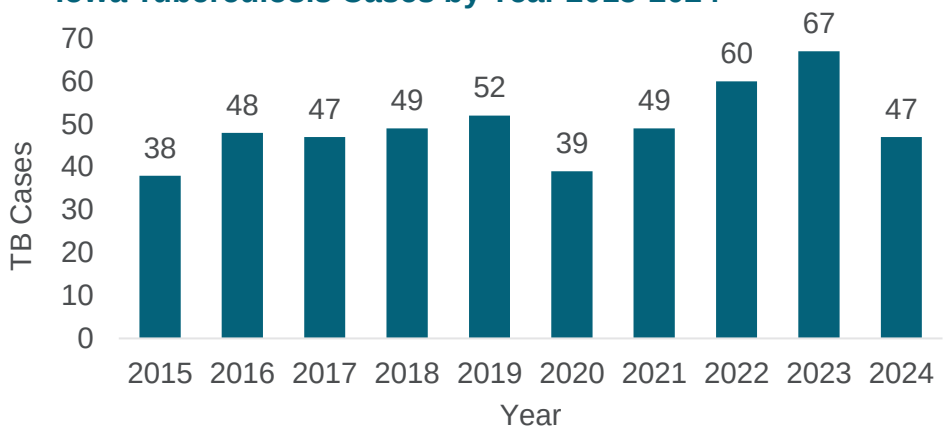
Tuberculosis Case Reporting:

- TB disease is a reportable condition in Iowa. **Both clinically suspected and laboratory confirmed tuberculosis** disease are to be reported.
- Cases of pulmonary disease should be reported to Iowa Department of Health and Human Services TB Program within one working day and three working days for extrapulmonary TB (EPTB) disease.
- Inactive tuberculosis infection is not a reportable condition in Iowa, however the Iowa Department of Health and Human Services provides medication to treat inactive TB to prevent progression to TB disease.

TB Cases: **2015-2024**

Over the last 10 years, confirmed TB cases in Iowa have ranged from 38 to 67 cases per year. In 2024, 47 TB cases were confirmed in Iowa, a sizable decrease from 2023. TB cases had been increasing between 2021 to 2023 but have since decreased in the past year.

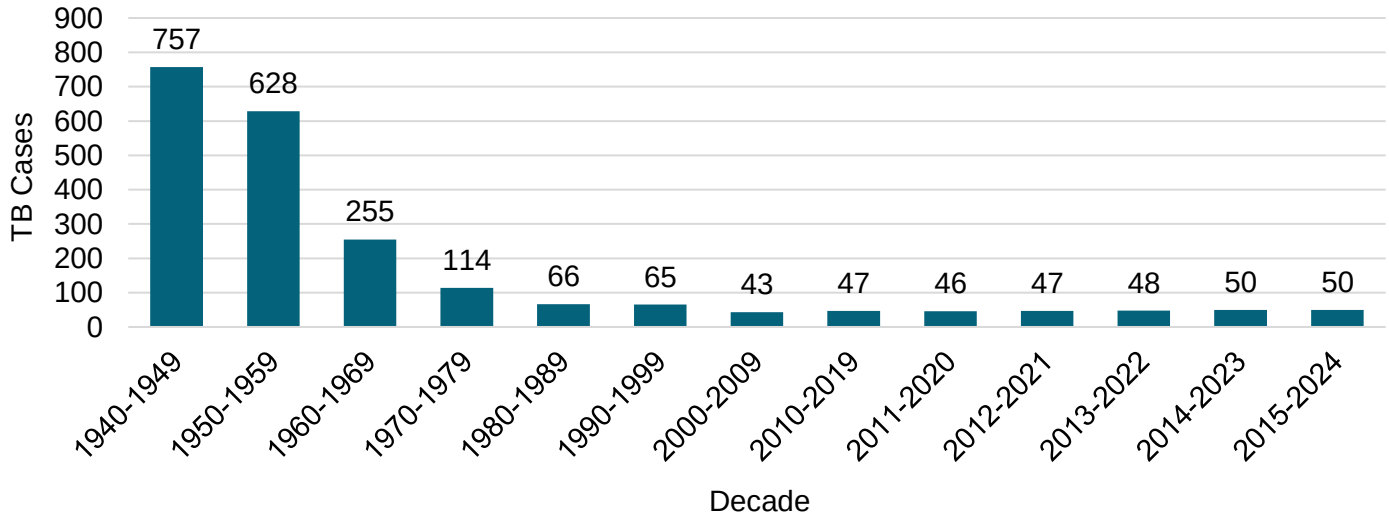
Iowa Tuberculosis Cases by Year 2015-2024



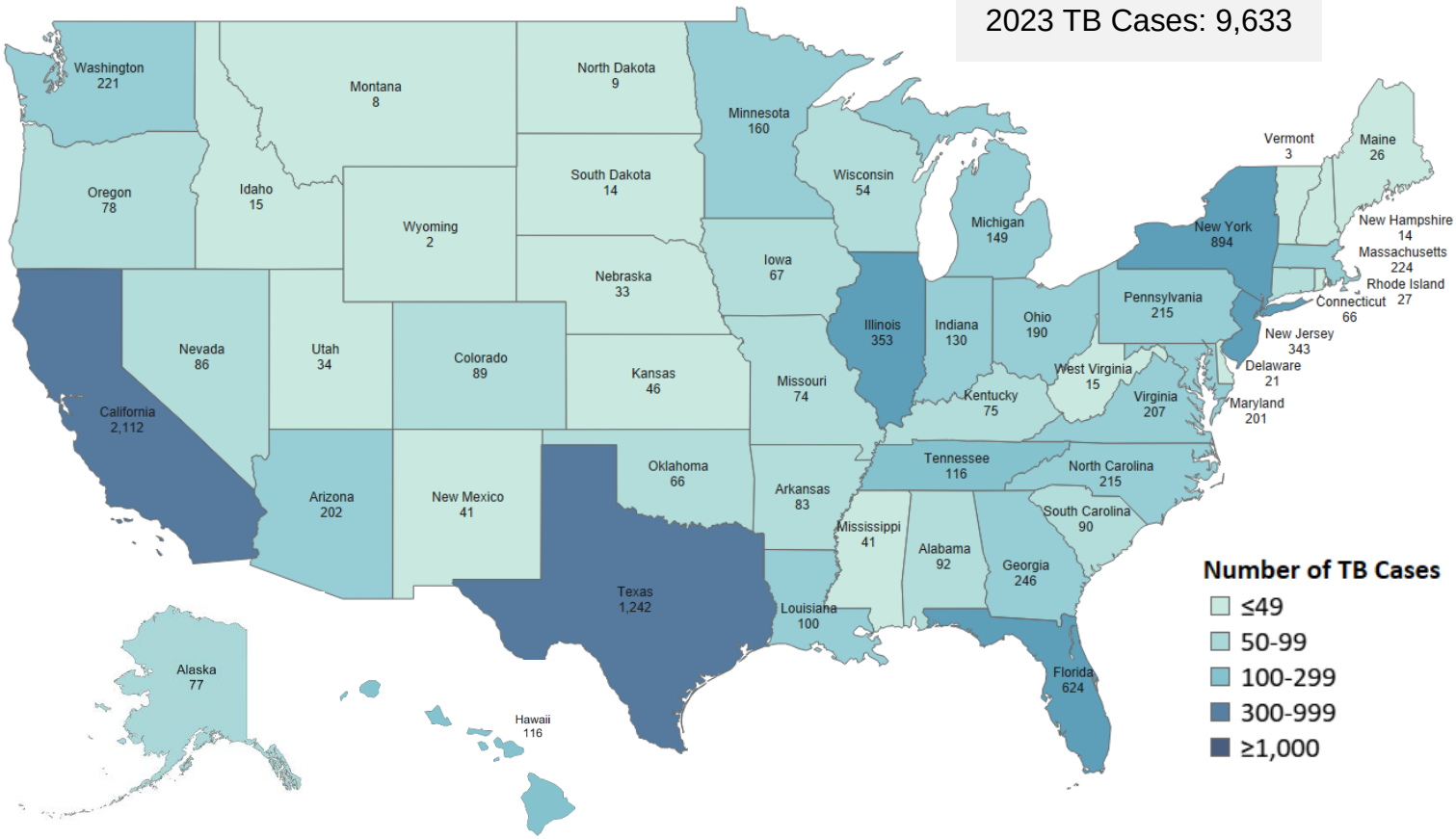
TB Cases by Decade

The average number of TB cases each year by decade has significantly decreased since the 1940s. The discovery of streptomycin in 1944 and Isoniazid (INH) in 1952 heralded the modern era of TB treatment. The use of INH signaled the '*beginning of the end*' for TB sanatoriums. However, science soon learned that single drug therapy resulted in treatment relapse. This led to the eventual use of a multi-drug treatment approach that demonstrated TB to be curable. Today, the use of an initial four-drug therapy to cure TB is the standard of practice in TB Control.

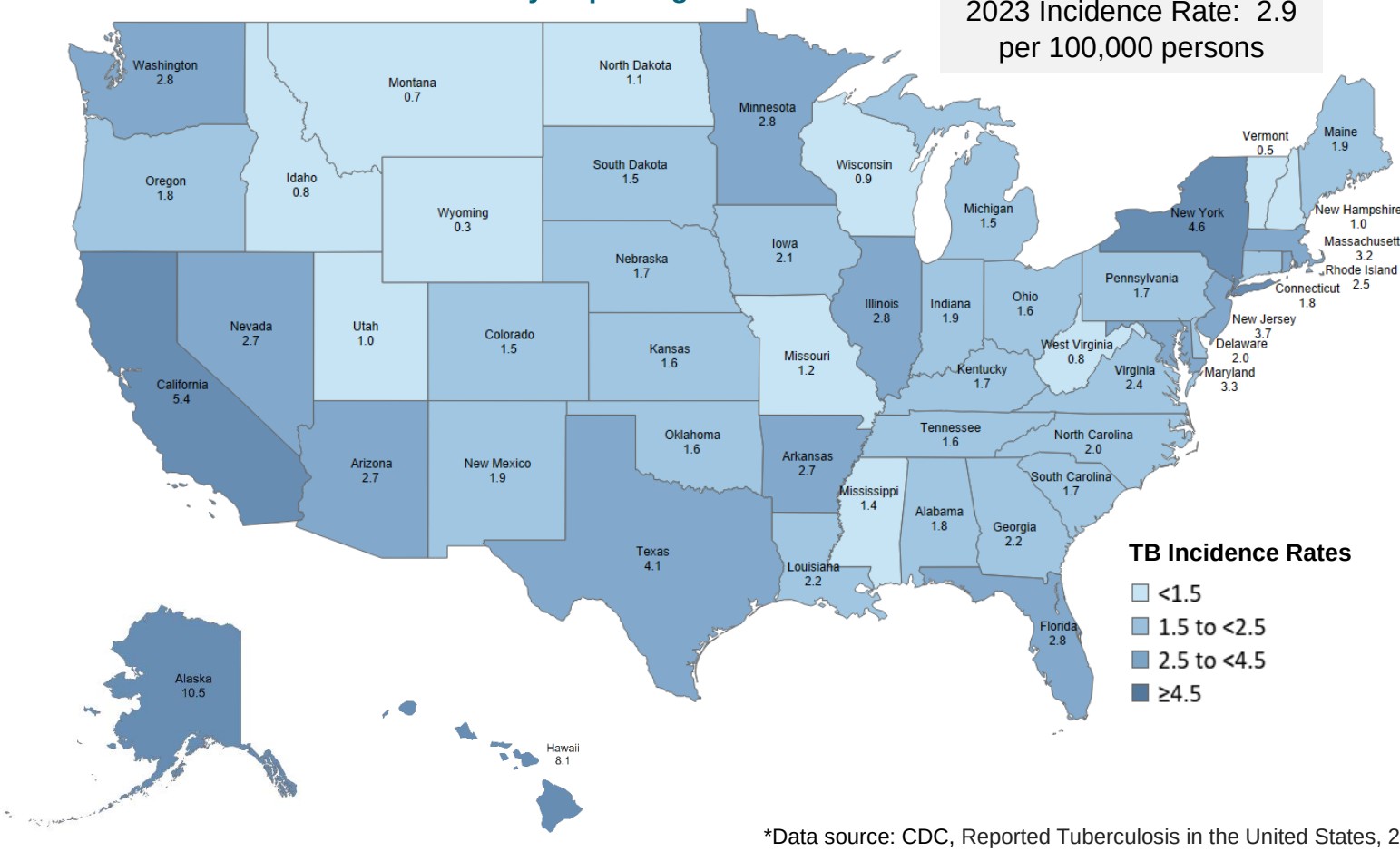
Average Number of Iowa TB Cases Each Year by Decade



2023 Cases in the U.S by Reporting Area*



2023 TB Incidence Rates in the U.S by Reporting Area*



*Data source: CDC, Reported Tuberculosis in the United States, 2023
- New York incidence rate includes New York City
- Cases per 100,000 population
- 2024 data not yet available

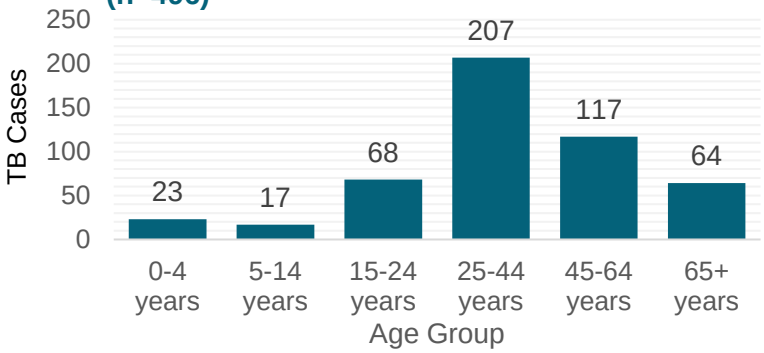
TB Cases in Iowa: Demographic Characteristics

TB Cases by **Age Group**

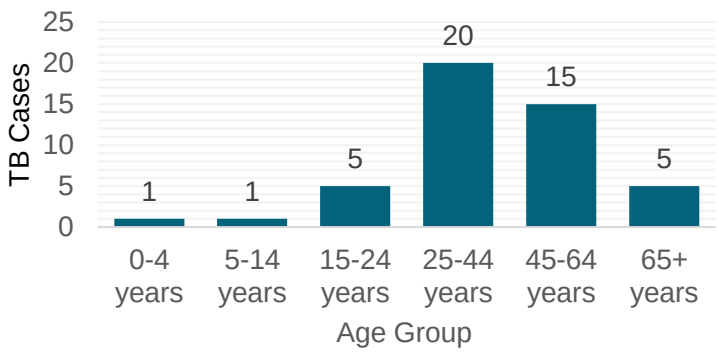
In 2024, 43% (20 cases) of confirmed TB cases in Iowa occurred among individuals 25-44 years of age followed by individuals 45-64 years (32%), 15-24 years of age (11%), and 65 years of age and older (11%). Two cases occurred in individuals under 15 years of age, accounting for 4% of the total confirmed TB cases in 2024.

Similarly, over the last 10 years, 42% of TB cases in Iowa occurred among individuals 25-44 years of age (207 cases) followed by individuals 45-64 years of age (24%) and individuals 15-24 years of age (14%). The 5-14 years age group had the lowest number of cases between 2015-2024 with 17 cases, representing 3% of the total cases occurring during this time period. TB risk increases with age due to a combination of age-related changes in TB exposure, risk of comorbidities, and immune function.

TB Cases by Age Group, Iowa, 2015-2024 (n=496)



TB Cases by Age Group, Iowa, 2024 (n=47)



TB Cases by **Sex**

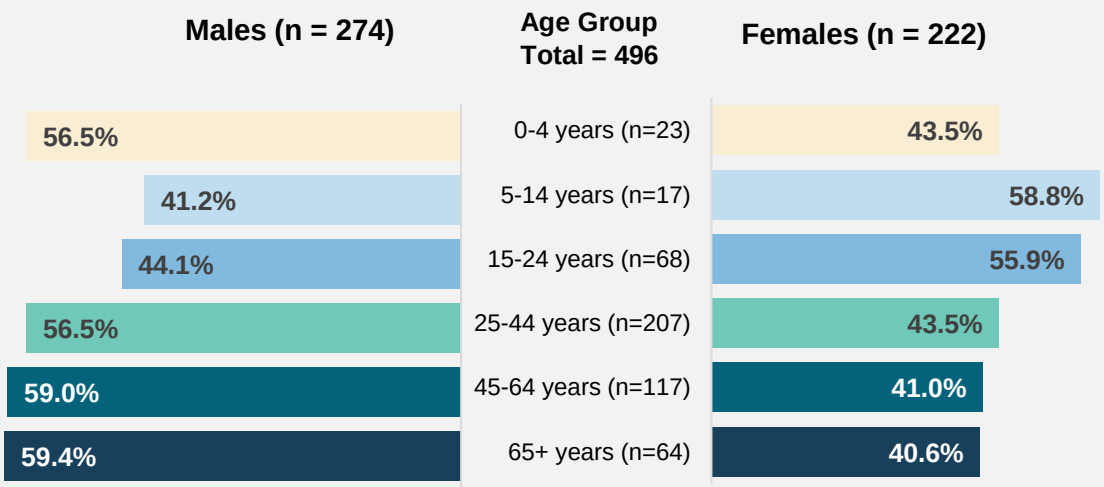
Between 2015-2024, 55.2% of tuberculosis cases occurred in males and 44.8% occurred among females.

Iowa TB Cases by Sex 2015-2024

TB Cases by Sex and Age Group

Of the 496 confirmed TB cases in Iowa between 2015-2024, the percent of TB cases by sex was higher among males than females for all age groups except the 5-14 years and 15-24 years age group.

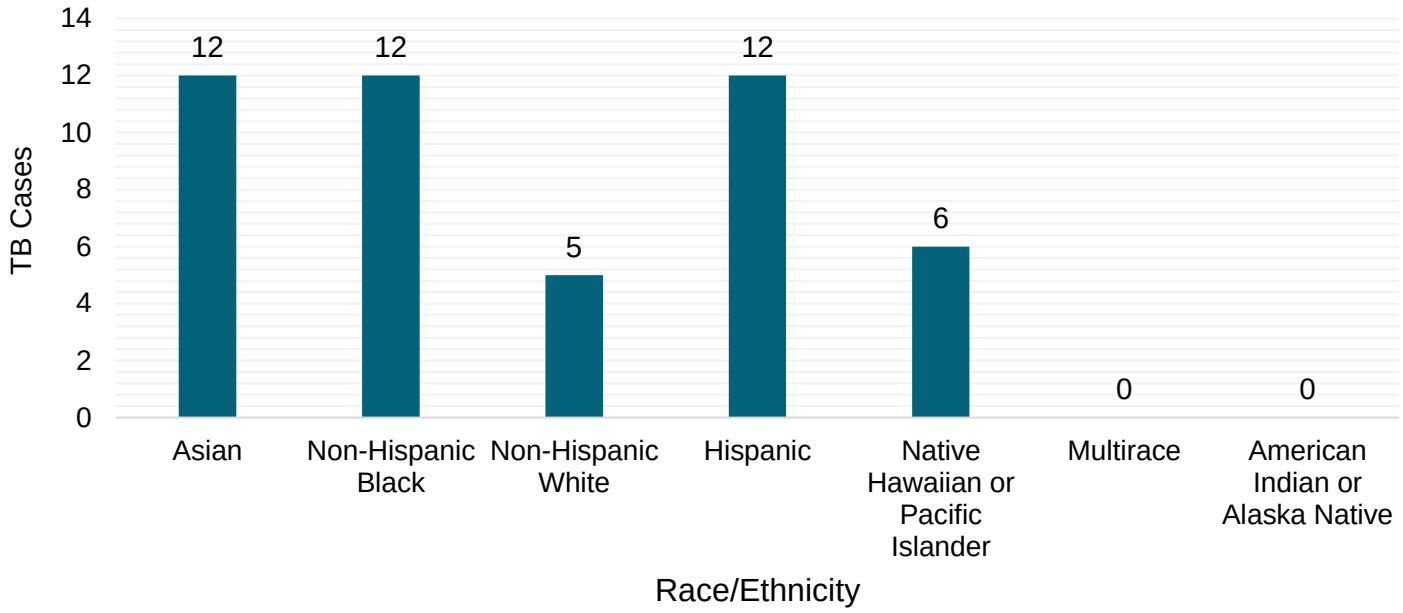
Percentage of TB Cases by Sex and Age Group, Iowa, 2015-2024



TB Cases by Race and Ethnicity

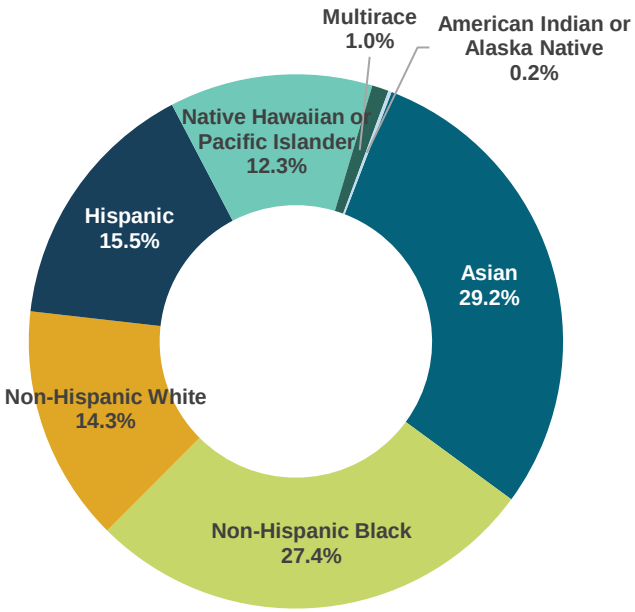
In 2024, Non-Hispanic Black, Asian, and Hispanic individuals each account for 12 TB cases, each representing 26% of TB cases in 2024. Native Hawaiian or Pacific Islander individuals represented 13% of TB cases as Non-Hispanic White individuals represented the least amount of cases (11%). No cases were observed among Native Indian or Alaska Native people or people with multiple races in 2024.

TB Cases by Race/Ethnicity, Iowa, 2024



Percent of Total TB cases in Iowa by Race/Ethnicity (2015-2024) (N=496)

Of the 496 confirmed TB cases in Iowa between 2015-2024, 29.2% occurred among Asian individuals followed by Non-Hispanic Black (27.4%), Hispanic (15.5%) and Non-Hispanic White (14.3%). Additionally, 12.3% of TB cases occurred among Native Hawaiian or Pacific Islanders, with a rise in cases among this population in recent years. American Indian or Alaska Native individuals and individuals with multiple race categories listed represent the remaining 1.2% of TB cases occurring in Iowa between 2015-2024.



Date note: Persons who identified as Hispanic or Latino were categorized as “Hispanic,” regardless of reported race. Persons who did not identify as Hispanic or Latino were categorized by reported race; if more than one race was reported, the person was categorized as “Multirace.”

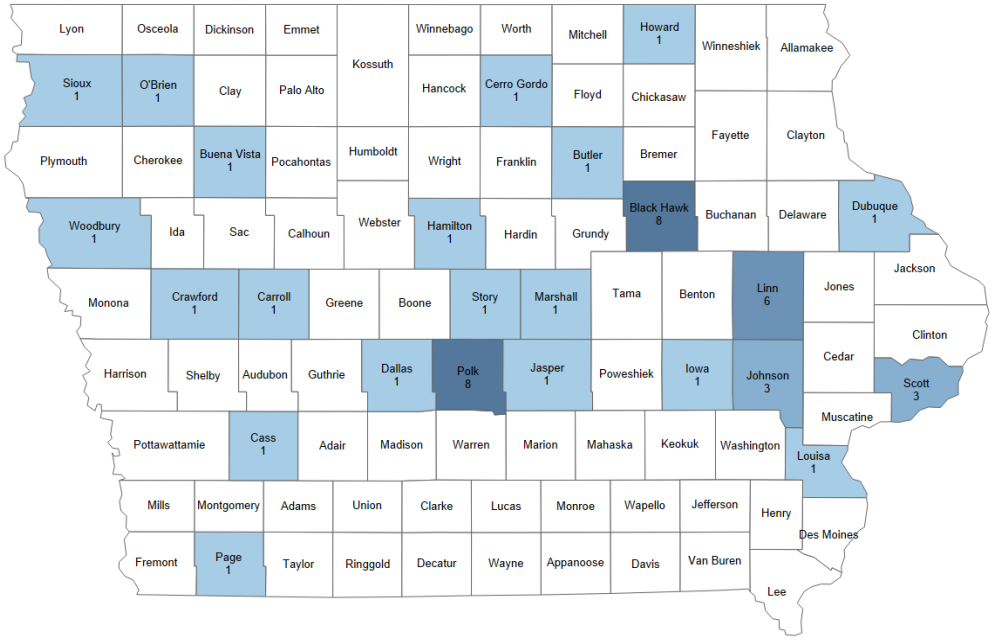
TB Cases in Iowa: County of Residence and Country of Birth

TB Cases by Iowa County of Residence: 2024

In 2024, a total of 47 tuberculosis cases were reported from 24 Iowa counties. Polk County and Black Hawk County each had the greatest number of TB cases reported (8) followed by Linn County (6).

Higher TB morbidity logically occurs in higher population areas, but also is concentrated in areas where newly arriving immigrants are resettling. Many rural areas are home to industries such as meat packing and processing, that actively seek immigrants to supplement the workforce.

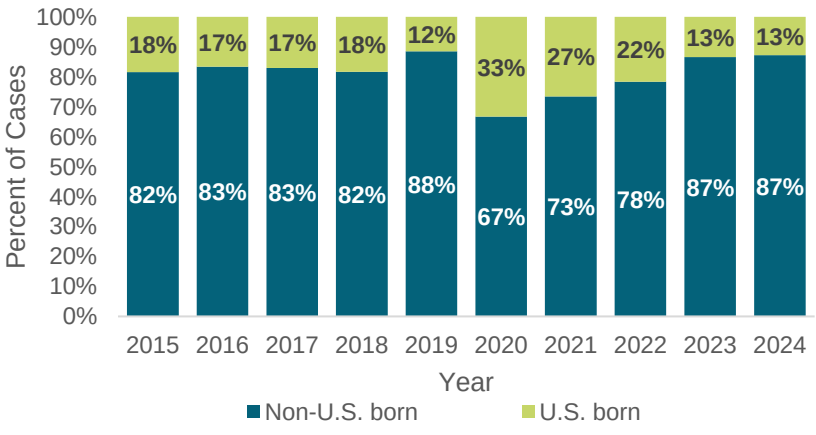
2024 TB Cases by Iowa County of Residence



TB Cases in Iowa (2015-2024) U.S. vs Non-U.S. Born

Non-U.S. born TB cases represent a large majority of TB cases in Iowa. Of the 47 cases of TB that occurred in Iowa in 2024, 87% occurred in non-U.S. born persons. Since 2015, more than 80% of TB cases in Iowa have occurred in non-U.S. born individuals with the exception of 2020-2022. Non-U.S. born persons account for only 4 percent of the Iowa population, highlighting the disparity. The decreasing numbers of U.S.-born cases are due in part to effective TB control practices in this country.

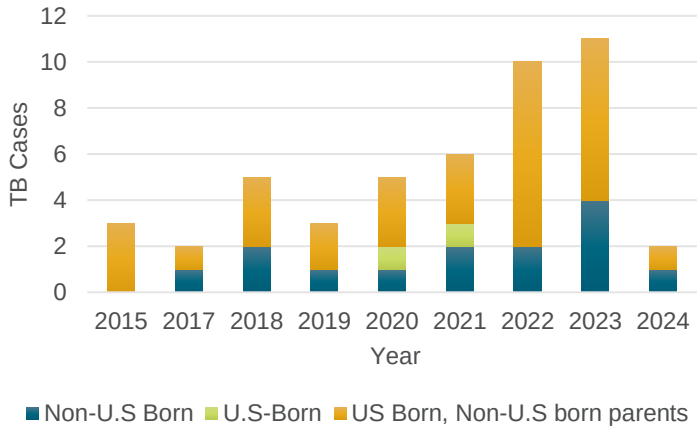
TB Cases By U.S. vs. Non-U.S. Born, Iowa, 2015 - 2024



Pediatric TB Cases in Iowa (2015-2024) U.S. vs. Non-U.S. Born

Between 2015-2024, 47 TB cases occurred in Iowa among individuals 15 years of age and younger. Of the 47 cases, 66% (31 cases) occurred among U.S. born individuals with non-U.S. born parents, while 30% (14 cases) occurred among non-U.S. born individuals. Only two pediatric cases occurred among U.S born individuals with U.S. born parents.

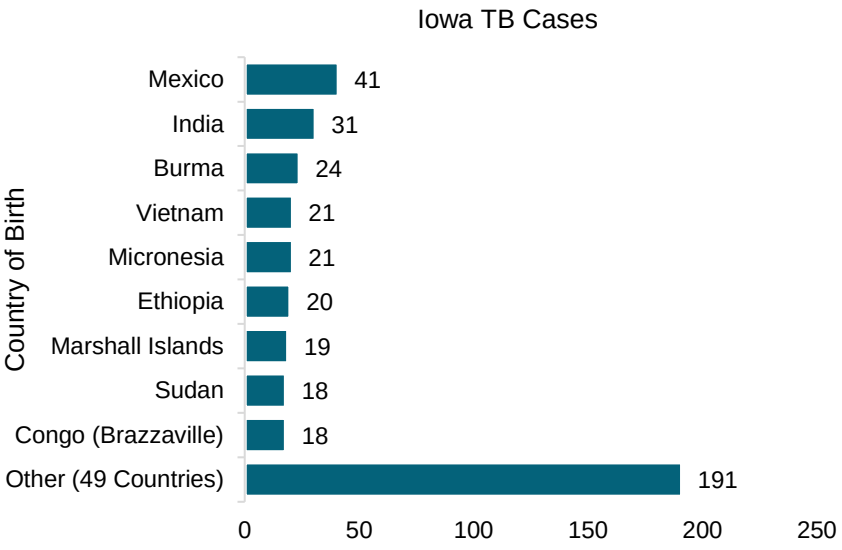
Pediatric TB Cases by Origin of Birth, Iowa, 2015-2024



TB Cases in Iowa (2015-2024) - Country of Birth

Of the 496 TB cases that occurred between 2015-2024 in Iowa, 404 (81%) cases occurred in individuals with country of birth outside of the United States. 59 different country of origins made up TB cases in Iowa between 2015-2024 with Mexico, India, Burma, Vietnam, and Micronesia making up one third of all non-U.S. born TB cases.

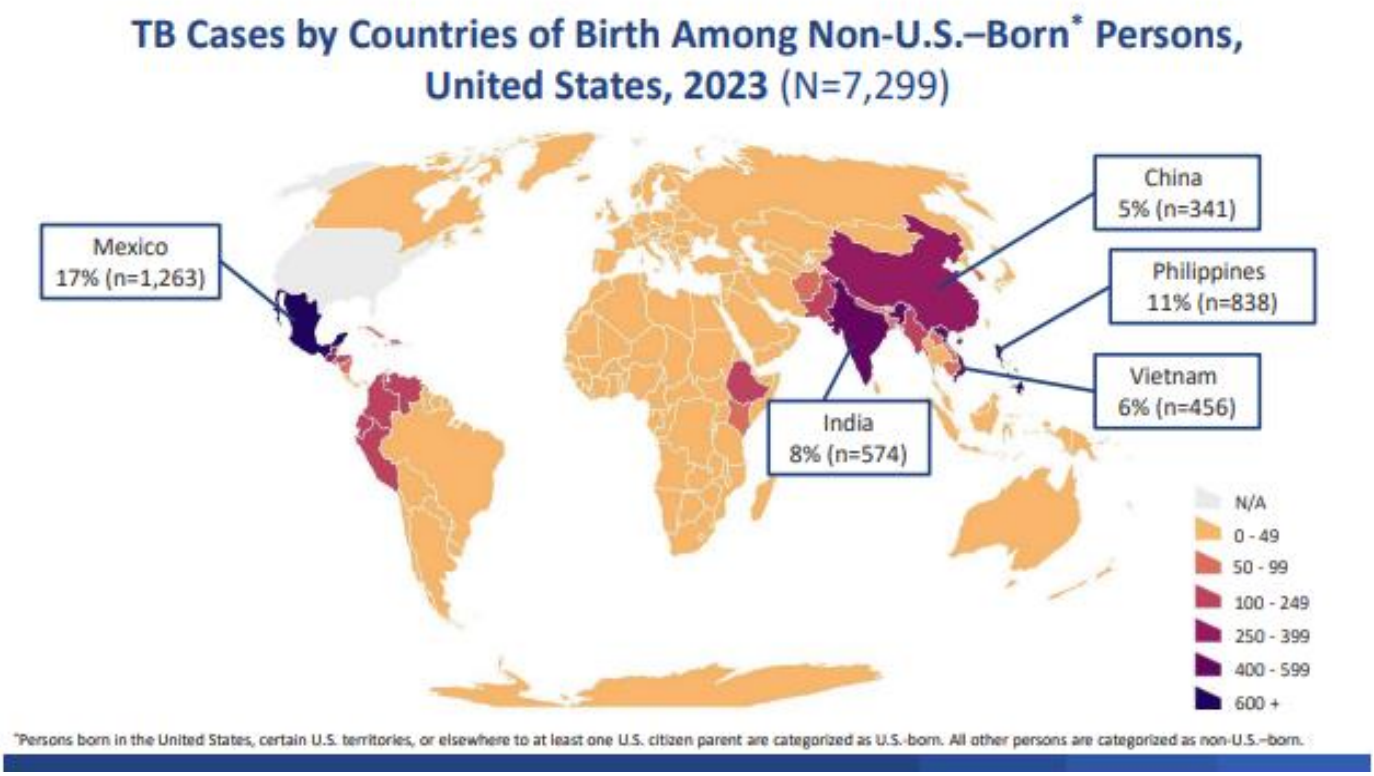
Non U.S. Born TB Cases: Iowa 2015 - 2024



Country of Birth	Total Iowa TB Cases (2015-2024)
USA	92
Mexico	41
India	31
Burma	24
Vietnam	21
Micronesia	21
Ethiopia	20
Marshall Islands	19
Sudan	18
Congo (Brazzaville)	18
Other (49 Countries)	191
Total	**496**

TB Cases by Country of Birth – United States, 2023

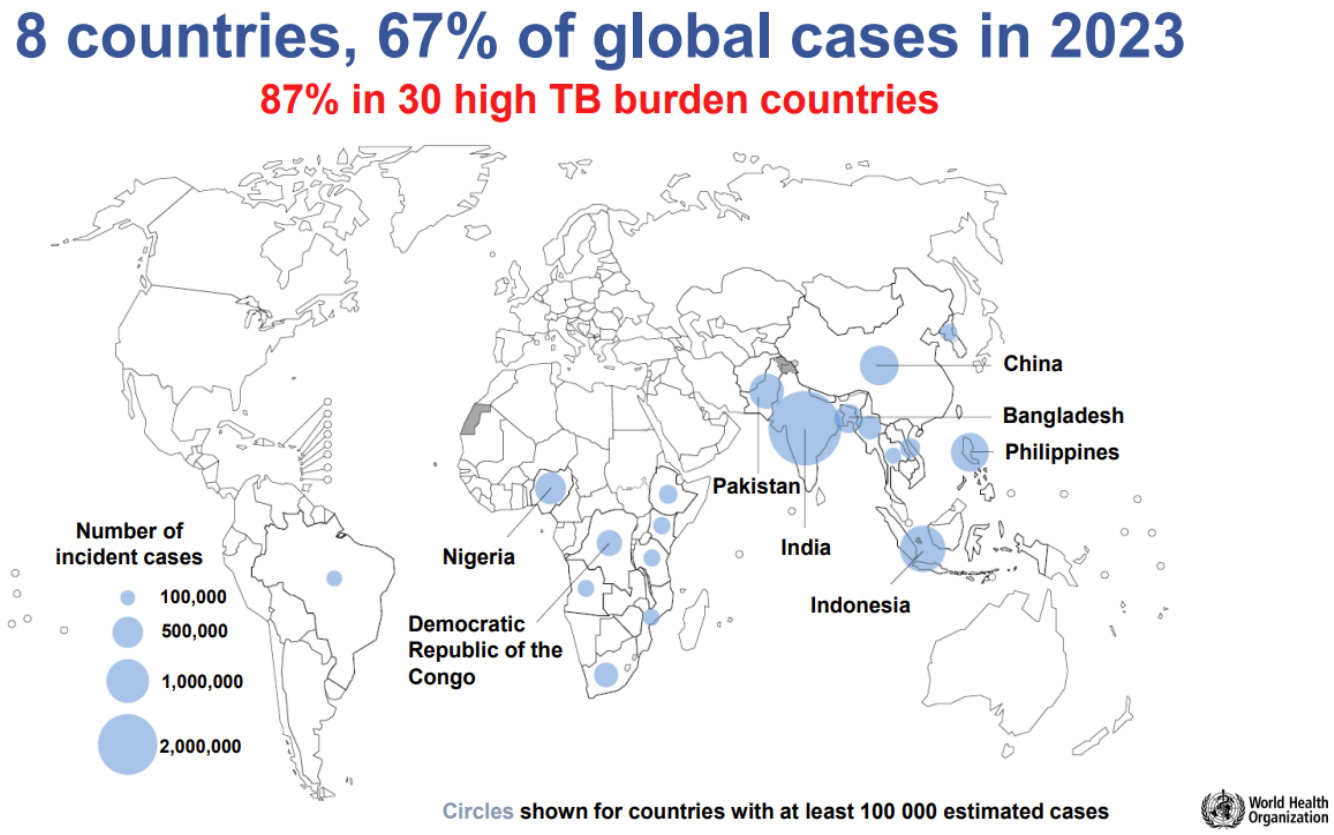
In 2023, 7,299 TB cases in the United States were among non-U.S. born persons. Consistent with Iowa data, individuals from Mexico represented the highest percent of non-U.S. born persons with TB (17%) followed by individuals born in the Philippines (11%), India (8%), Vietnam (6%), and China (5%).



TB Cases Worldwide

WHO Global Tuberculosis Health Report 2024 Takeaways

- In 2023, TB is estimated to be the world's leading cause of death from a single infectious agent.
- In 2023, an estimated 10.8 million (95% uncertainty interval [UI]: 10.1-11.7 million) people fell ill with TB worldwide, of which 5.9 million were men, 3.6 million were women and 1.3 million were children.
- The TB incidence rate (new cases per 100,000 population per year) has started to stabilize following the COVID-19 pandemic, rising by only 0.2% between 2022 and 2023.
- Globally in 2023, TB caused an estimated 1.25 million (95% UI: 1.13–1.37 million) deaths, including 161,000 people with HIV. This was down from best estimates of 1.32 million in 2022 and below the pre-pandemic level of 1.34 million in 2019.
- Eight countries accounted for more than two-thirds of the global total: India, Indonesia, China, the Philippines, Pakistan, Bangladesh, Nigeria, and the Democratic Republic of Congo.



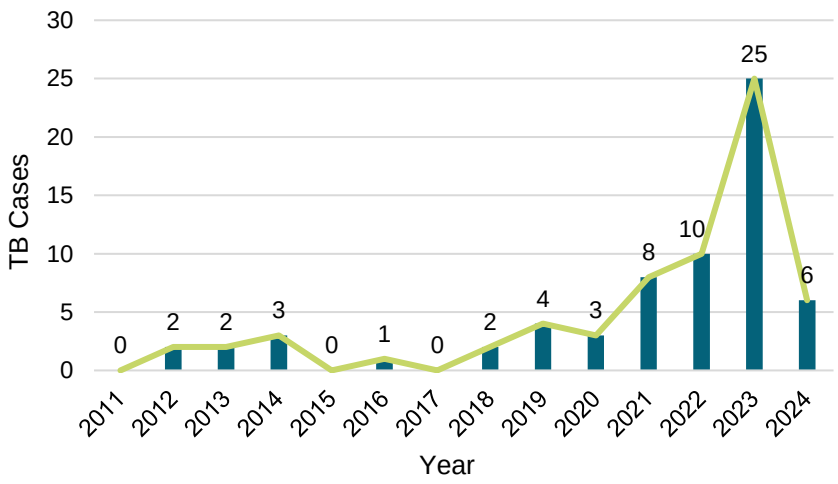
Data source: WHO, Global Tuberculosis Report 2024

Increase in TB cases among persons of Pacific Island communities

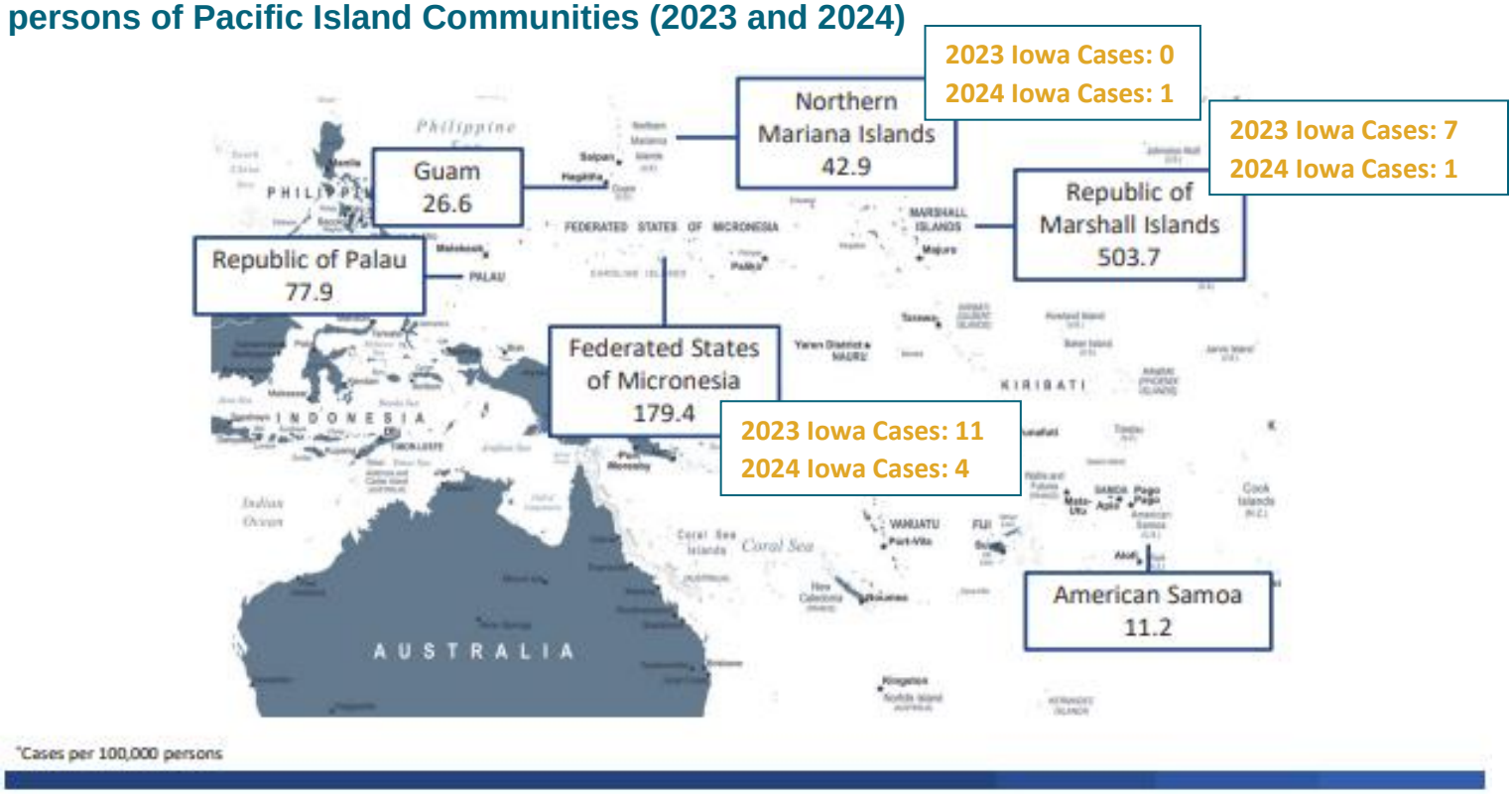
Since 2021, there has been an increase in the number of TB disease cases occurring amongst persons from designated Pacific Island communities in Iowa. The Pacific Island communities include the Republic of the Marshall Islands (RMI), Republic of Palau, and the Federated States of Micronesia (FSM), which includes the island states of Yap, Chuuk, Pohnpei and Kosrae. Citizens of these communities do not have the benefit of medical screening for communicable diseases, including tuberculosis, upon entry to the United States. Reported verified cases of TB disease in persons from the Pacific Island communities have increased substantially in 2023 but have decreased in 2024. Statewide data indicates TB screening is not occurring at sufficient levels in Iowa to identify active or inactive TB (i.e. latent TB infection [LTBI]). Delays in TB screening and testing continue to result in severe disability and death.

In 2024, there were **6 reported verified cases of TB** among persons of Pacific Island communities in Iowa, representing 13% of the total number of reported TB cases in Iowa in 2024. Between 2011-2024, there were 66 cases of TB reported among persons from Pacific Island communities and of these, 41 cases occurred between 2022-2024, representing 62% of the total number of TB cases in this community between 2011-2024.

Number of TB Cases in Pacific Islanders by Year



TB Incidence Rates by U.S. Affiliated Pacific Islands, 2023 and Iowa TB Cases among persons of Pacific Island Communities (2023 and 2024)



Map data source: CDC, Reported Tuberculosis in the United States, 2023 and Iowa TB data
Iowa data includes both non-US and U.S born persons of Pacific Island community

TB Cases in Iowa: Site of Disease

TB Cases by Site of Disease

Of the 47 confirmed TB cases in Iowa in 2024, pulmonary TB was the most common site of TB disease with 80% of TB cases occurring in the lungs. Out of all the TB cases, 26.7% were exclusively pulmonary while 53.3% had both pulmonary and extrapulmonary site of disease. An additional 20% of TB cases had extrapulmonary only site of disease.

Site of TB Disease:

Pulmonary TB: TB disease that occurs in the lungs. It is the most common site for TB disease.

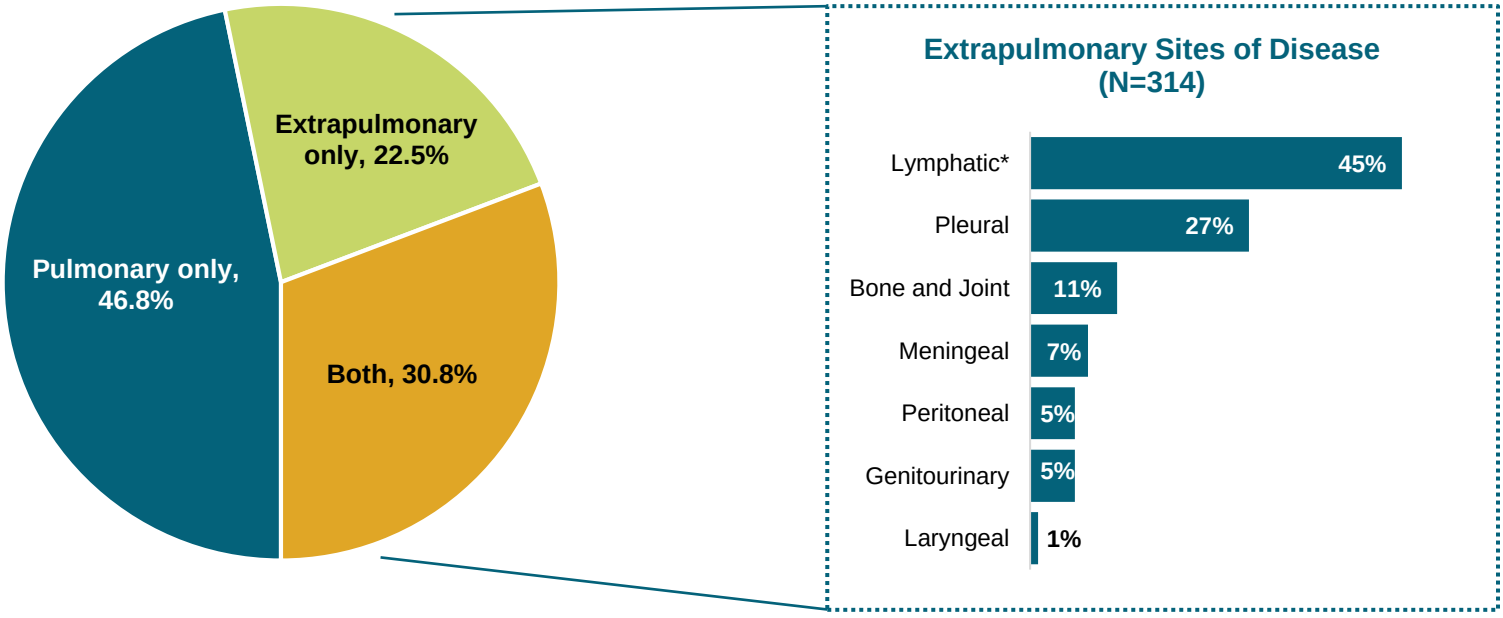
Extrapulmonary TB: TB disease that occurs outside of the lungs. The most common sites are lymph nodes, pleura, bone and joints, urogenital tract and meninges.

Iowa TB Cases by Site of Disease - 2024

Pulmonary 26.7%	Extrapulmonary 20.0%	Both Pulmonary and Extrapulmonary 53.3%

Of the 496 confirmed TB cases in Iowa between 2015-2024, pulmonary TB was the most common site of TB disease with 77.6% of TB cases occurring in the lungs. Of the 77.6% of cases, 46.8% were exclusively pulmonary while 30.8% had both pulmonary and extrapulmonary site of disease. An additional 22.5% of TB cases had extrapulmonary only site of disease. Lymphatic and pleural were the two most common extrapulmonary sites of disease, representing 45% and 27% of the total extrapulmonary sites, respectively.

Percentage of TB Cases by Site of Disase, Iowa, 2015-2024



Notes:
Persons might have more than one extrapulmonary site of disease
*Persons with multiple lymphatic sites of disease are counted once.

TB Treatment in Iowa

Tuberculosis Treatment

TB disease and inactive TB can be treated with several treatment options. TB treatment depends on a variety of factors including HIV status, drug resistance, pregnancy, and treatment of children. It is very important that people who have TB disease finish treatment and take the drugs exactly as prescribed. If patients stop taking the drugs too soon, they can become sick again; if they do not take the drugs correctly, the TB bacteria that are still alive may become resistant to those drugs. Drug resistant TB is harder and more expensive to treat.

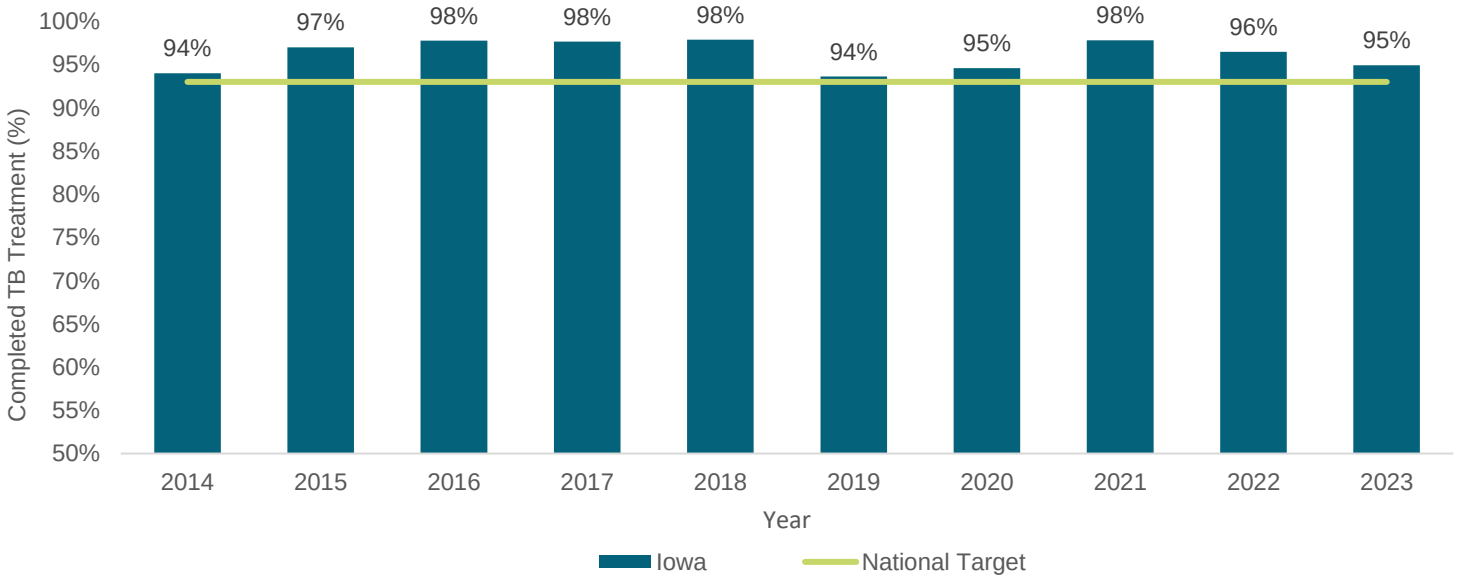
The Iowa TB Control Program provides medication for all inactive TB, suspected, and confirmed cases of TB disease at no cost for individuals residing within the state of Iowa. Additional information regarding TB treatment in Iowa can be found **here.**

93%

National target for TB treatment completion

Since 2012, Iowa's completed TB treatment percentage has remained above the national target. TB treatment completion for 2024 is not yet available as treatment for cases that occurred in 2024 are still in progress.

Completed TB Treatment in Iowa: 2014-2023



Additional information and resources on TB testing, reporting, administrative rules, treatment, screening, and TB prevention in Iowa can be found **here.**