

# Epidemiology of Tuberculosis

Zach Smith, MPH  
Epidemiologist  
Tuberculosis Elimination and Control Branch



Office of Infectious Disease Epidemiology

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## Agenda

- Epidemiology
  - Global
  - National
  - Local
- Questions?

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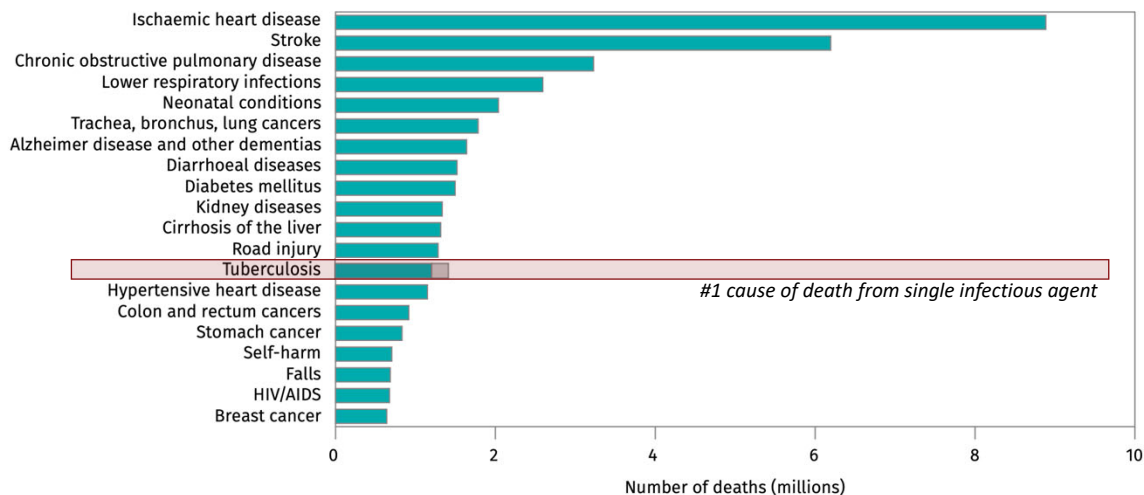
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# Epidemiology, global



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## Leading causes of death, globally



Source: Global tuberculosis report 2021. Geneva: World Health Organization; 2021.



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## Global impact of tuberculosis

**1,700,000,000**

people infected by TB bacteria

**10,000,000**

new cases of TB disease per year

**1,500,000**

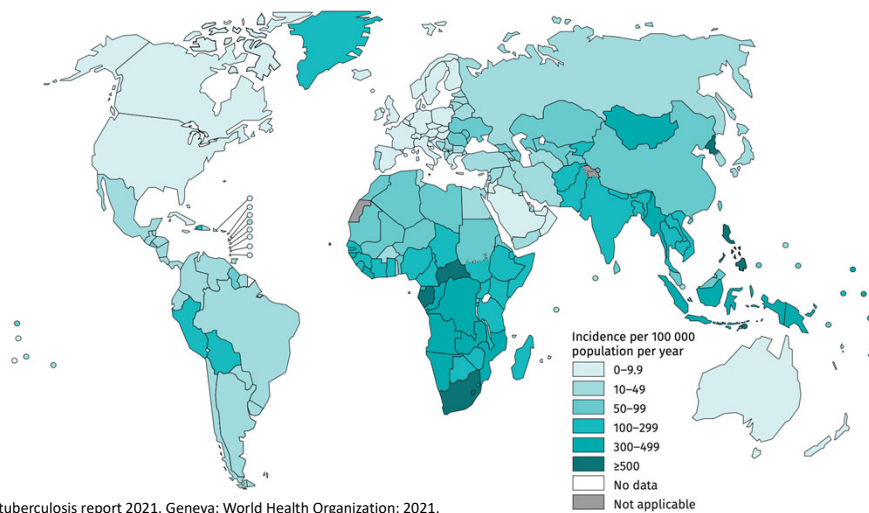
people who die from TB disease per year

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## Global incidence of TB disease



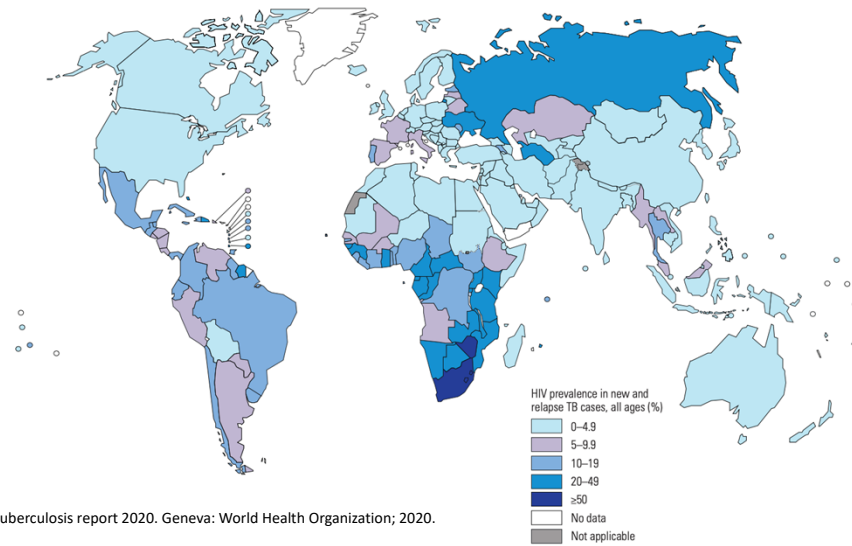
Source. Global tuberculosis report 2021. Geneva: World Health Organization; 2021.

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## TB disease and HIV coinfection



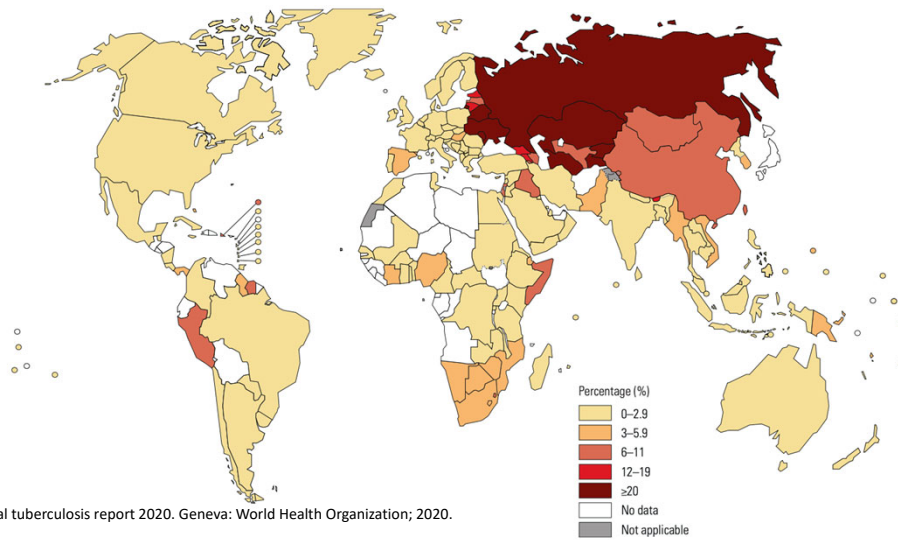
Source. Global tuberculosis report 2020. Geneva: World Health Organization; 2020.

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## TB disease and drug resistance



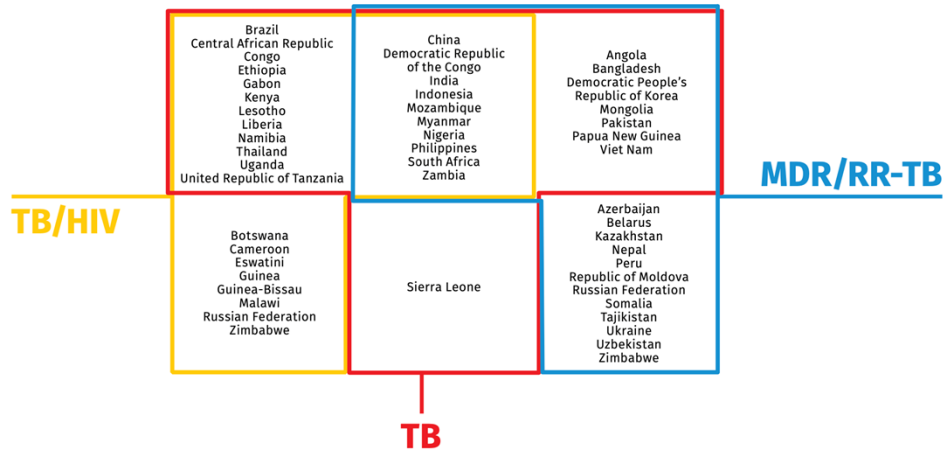
Source. Global tuberculosis report 2020. Geneva: World Health Organization; 2020.

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## Countries with high burden of TB, TB and HIV coinfection, and drug-resistant TB



Source: Global tuberculosis report 2021. Geneva: World Health Organization; 2021.

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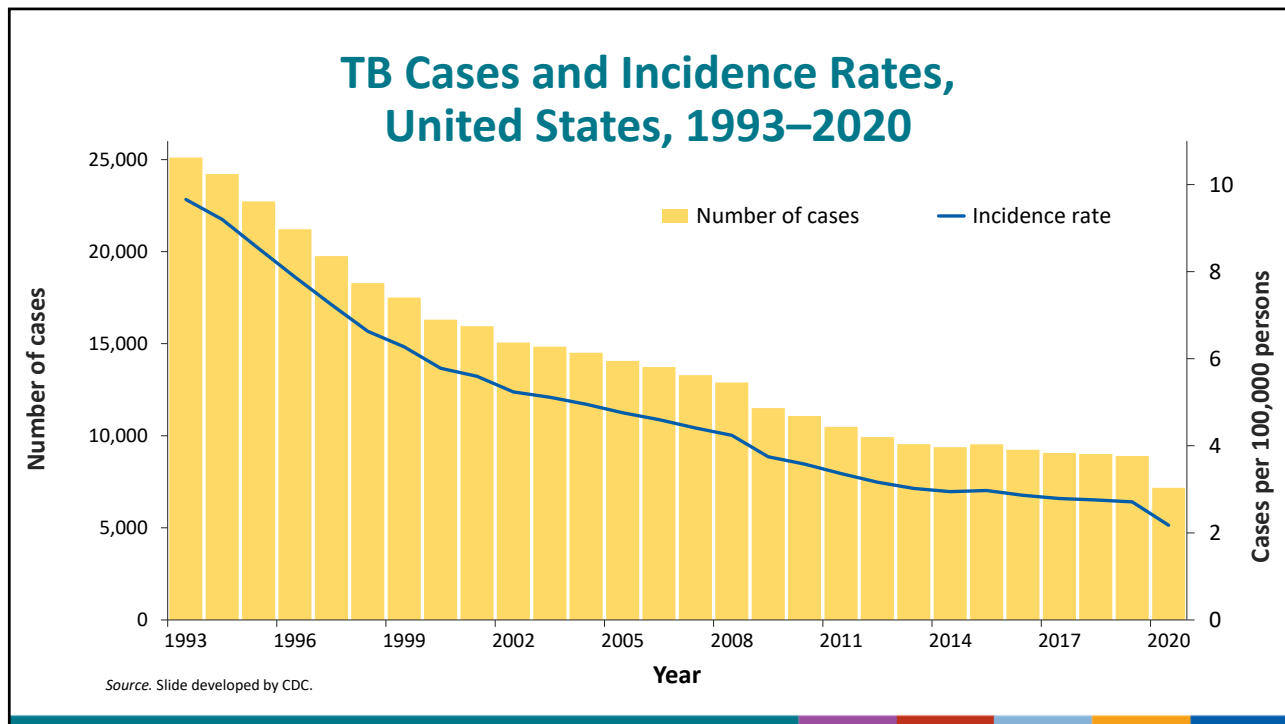
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## Epidemiology, national

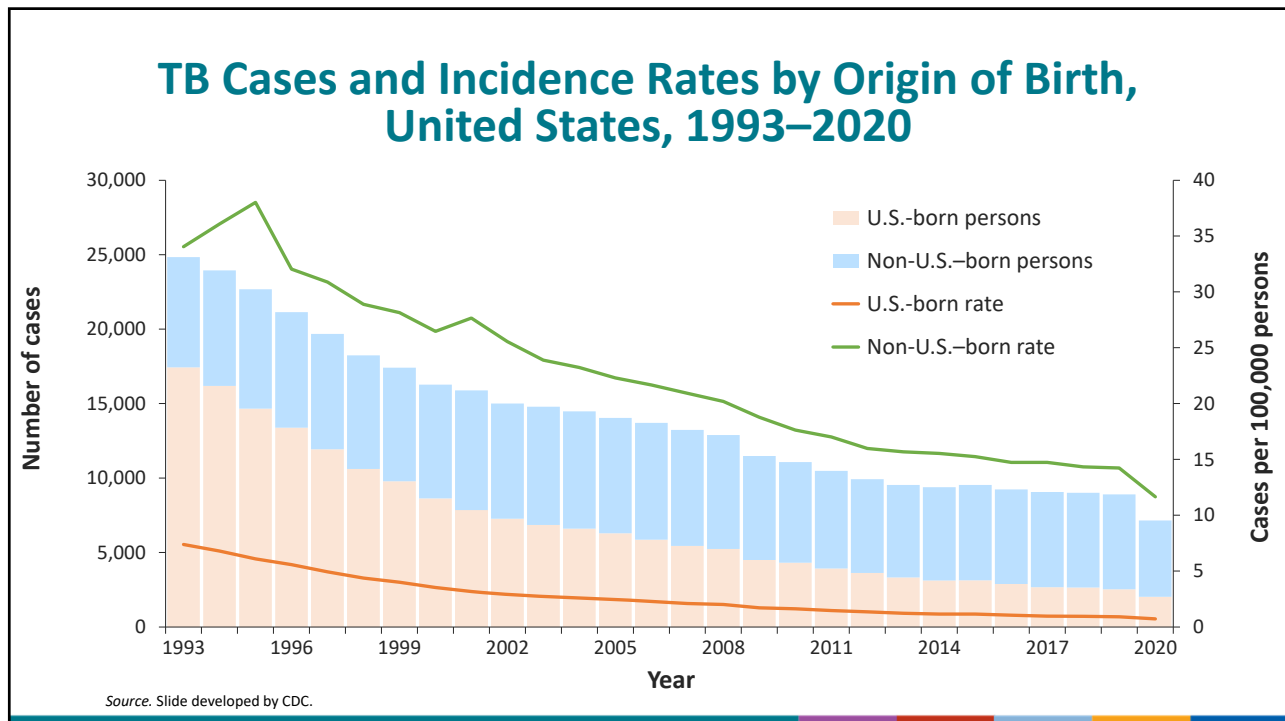
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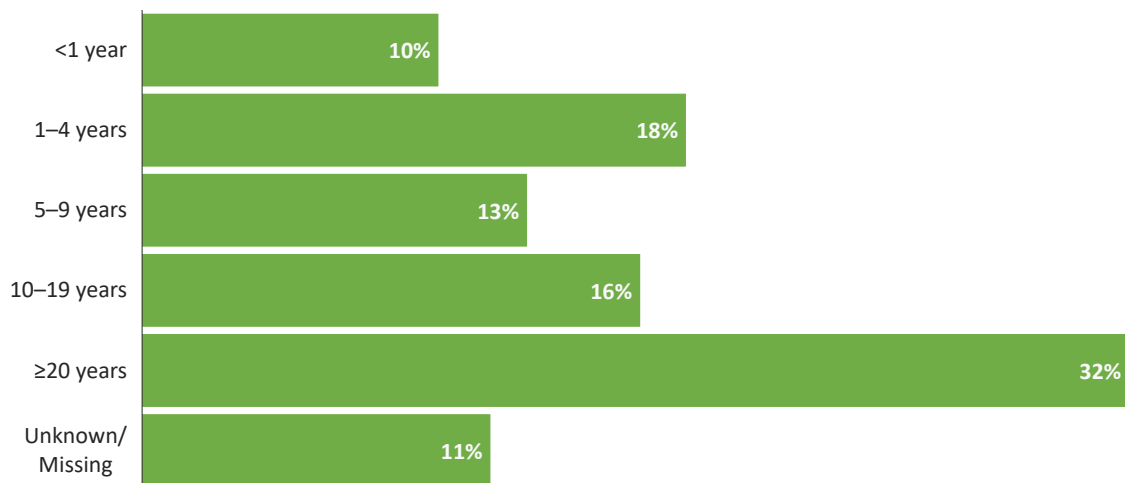


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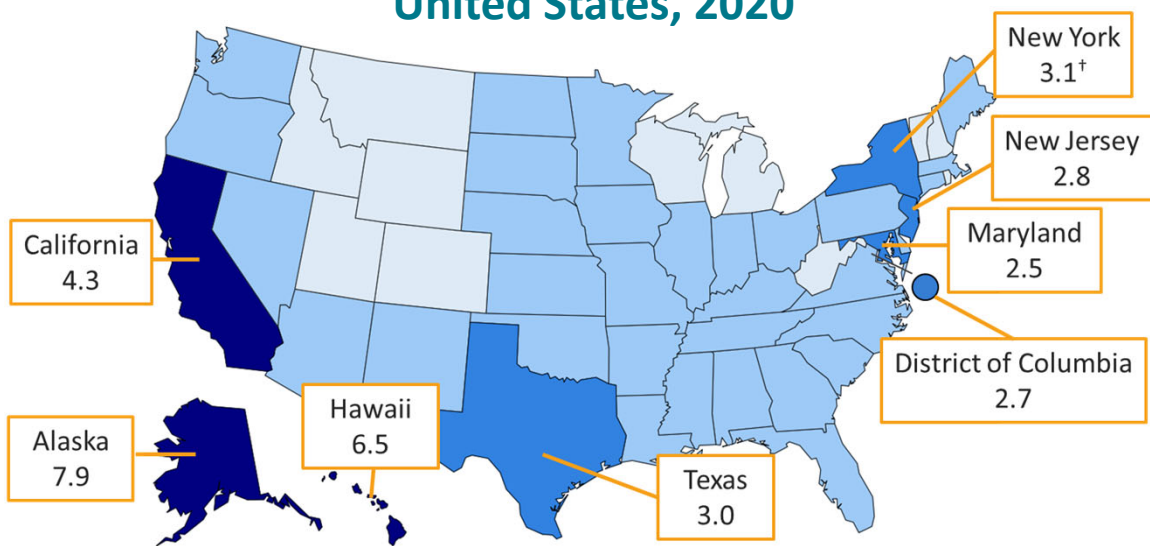
### Percentage of TB Cases Among Non-U.S.-born Persons by Years Since Initial Arrival in the United States at Diagnosis, 2020 (N=5,127)



Source: Slide developed by CDC.

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### TB Incidence Rates\* by Reporting Area United States, 2020



\*Cases per 100,000 persons

<sup>†</sup>Includes NYC

0 - 1.1

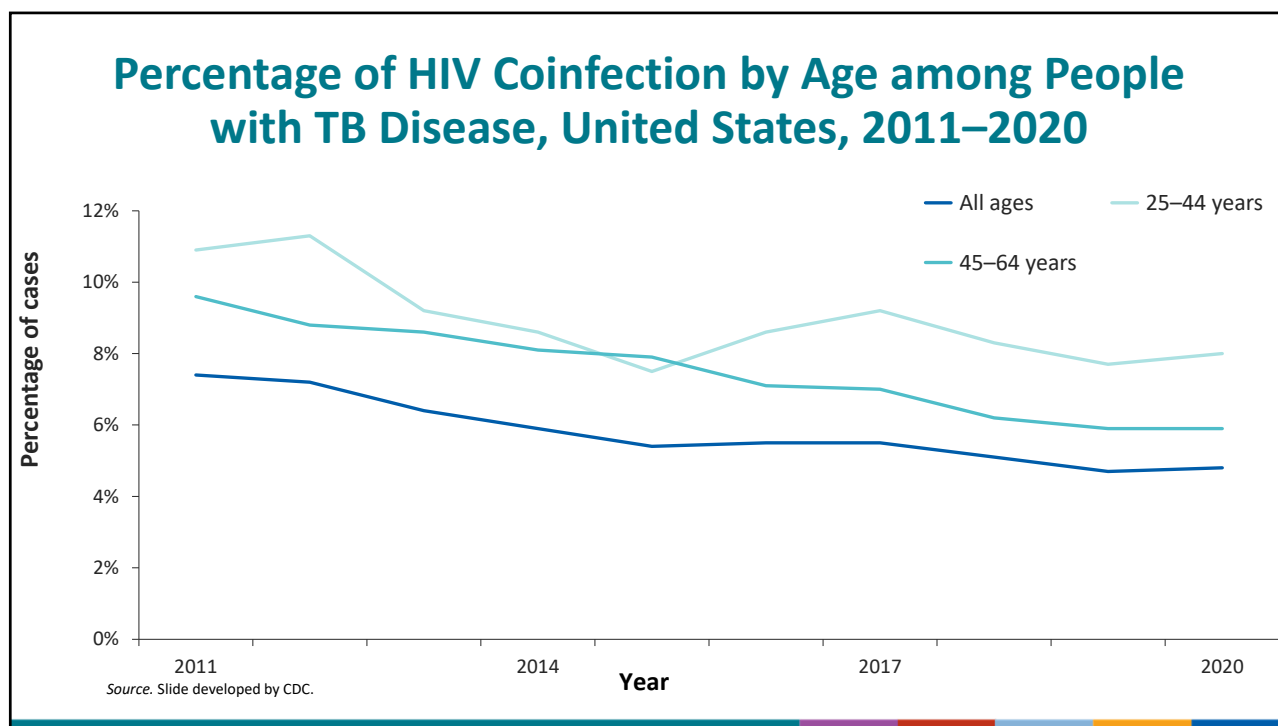
>1.1 to 2.2

>2.2 to 4.3

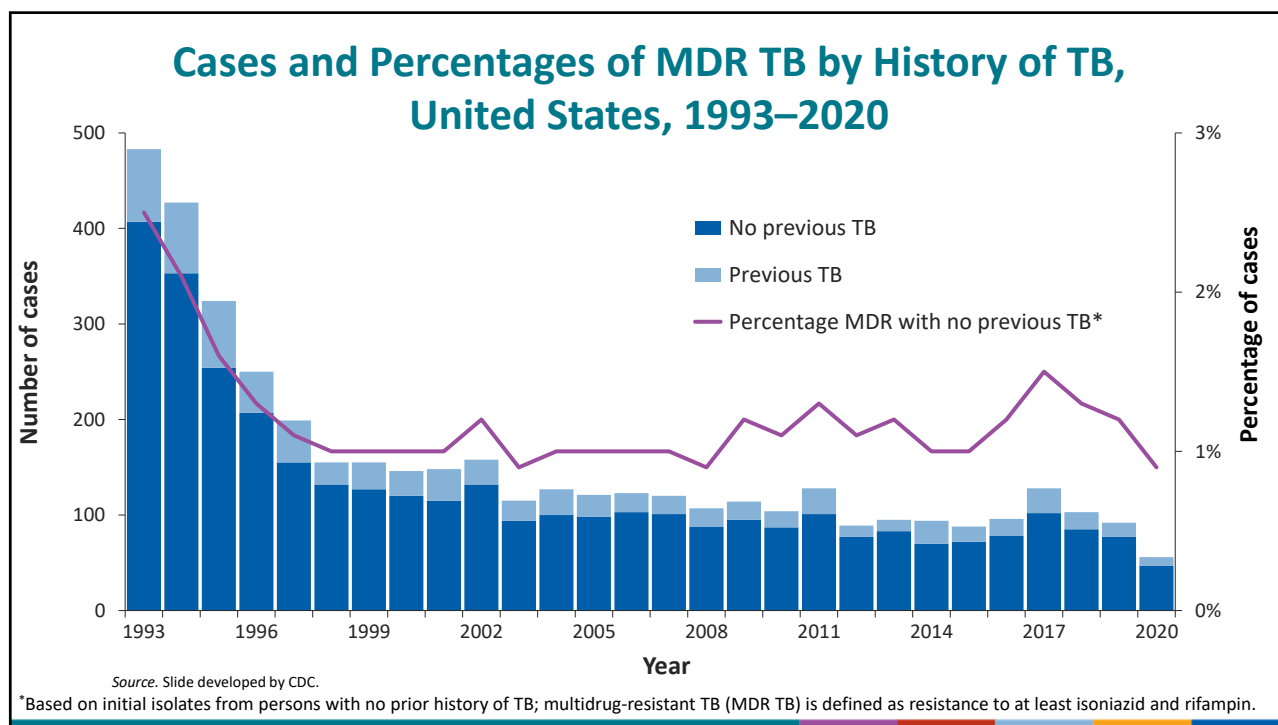
>4.3

Source: Slide developed by CDC.

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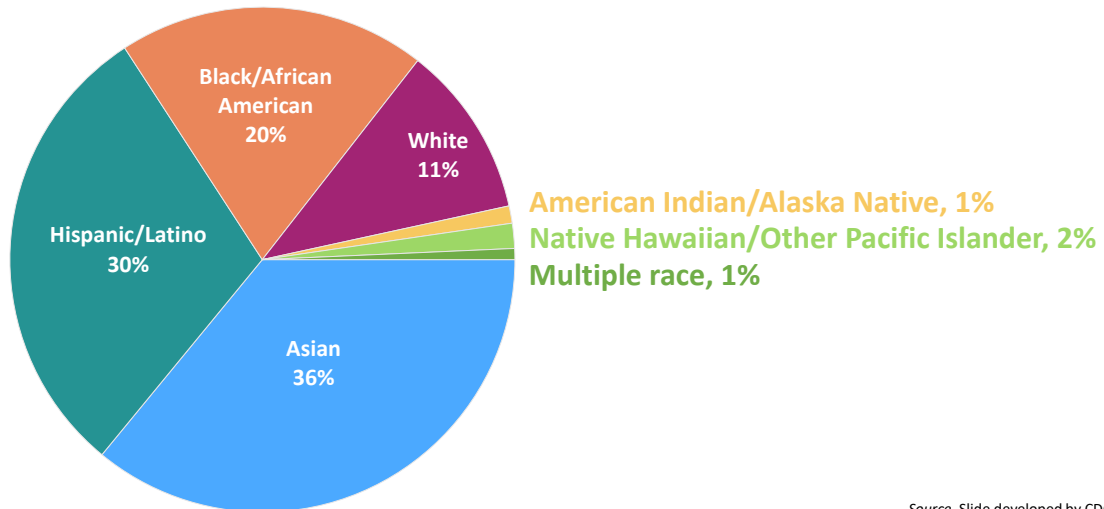


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## Percentage of TB Cases by Race/Ethnicity,<sup>\*</sup> United States, 2020 (N=7,174)<sup>†</sup>



Source. Slide developed by CDC.

<sup>\*</sup>All races are non-Hispanic; multiple race indicates two or more races reported for a person but does not include persons of Hispanic or Latino origin.

<sup>†</sup>Percentages are rounded. Percentages of unknowns/missing are <1% and are not displayed in graph.

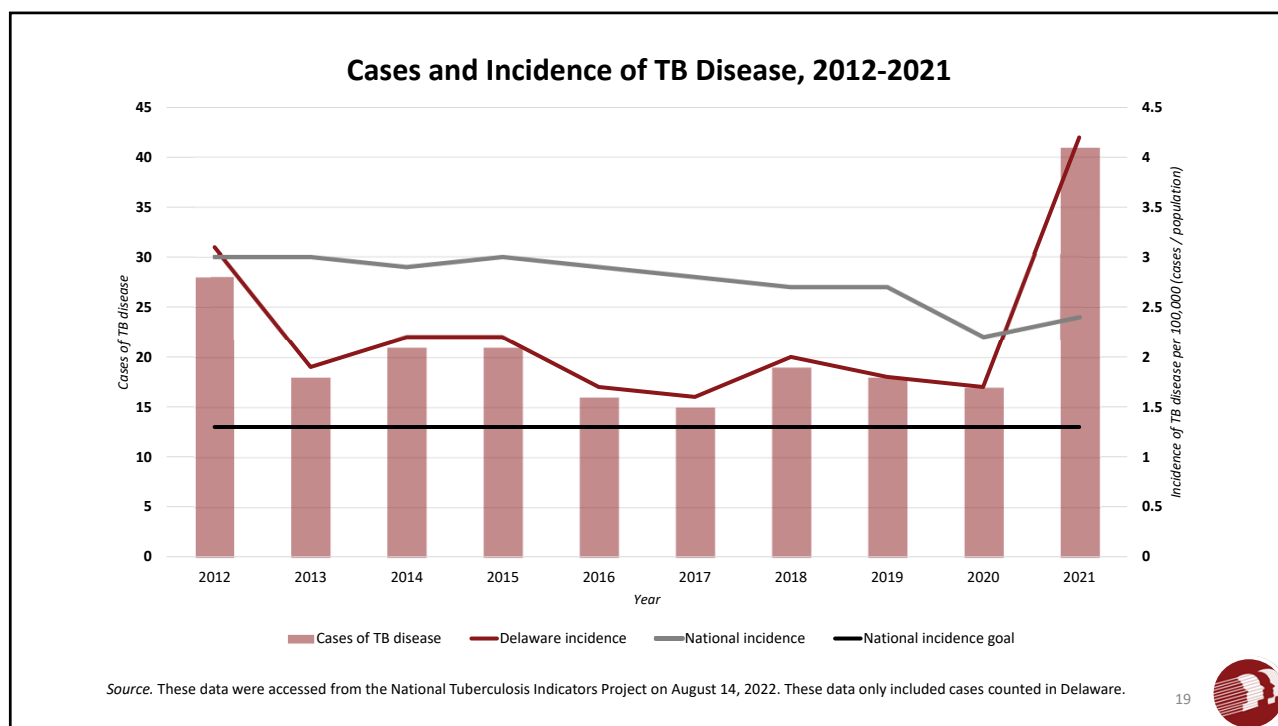
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## Epidemiology, Delaware

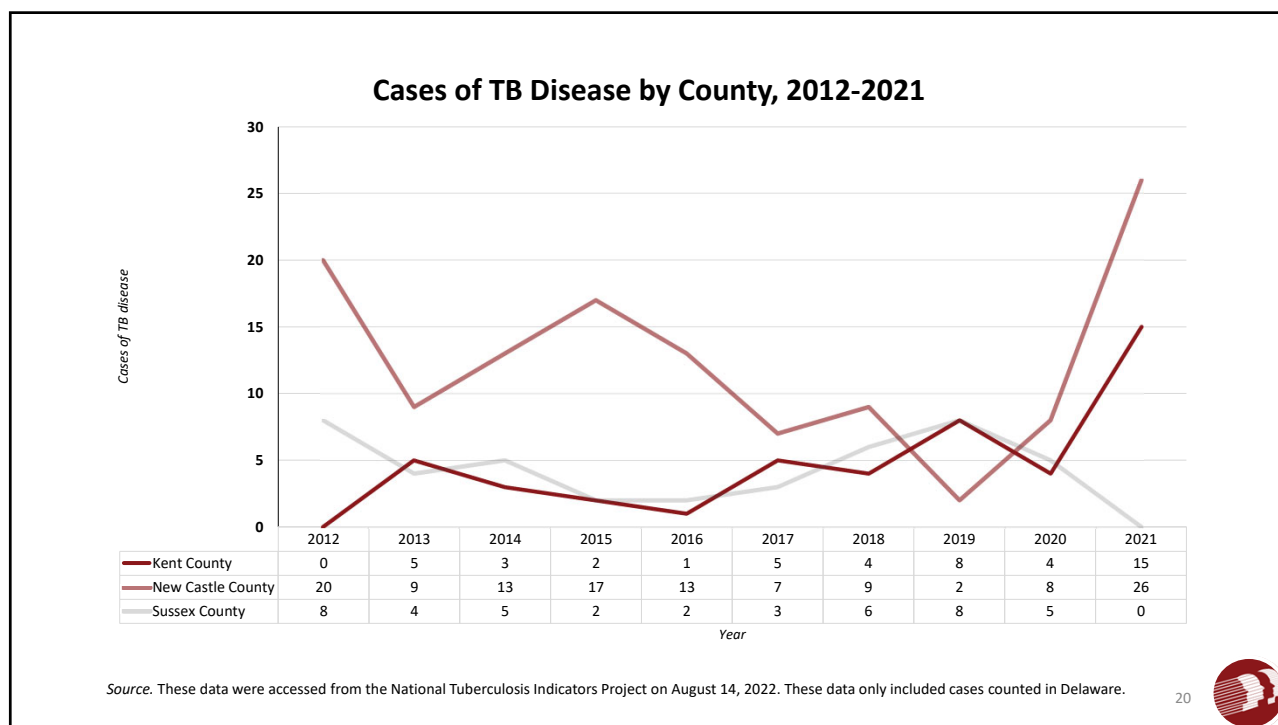
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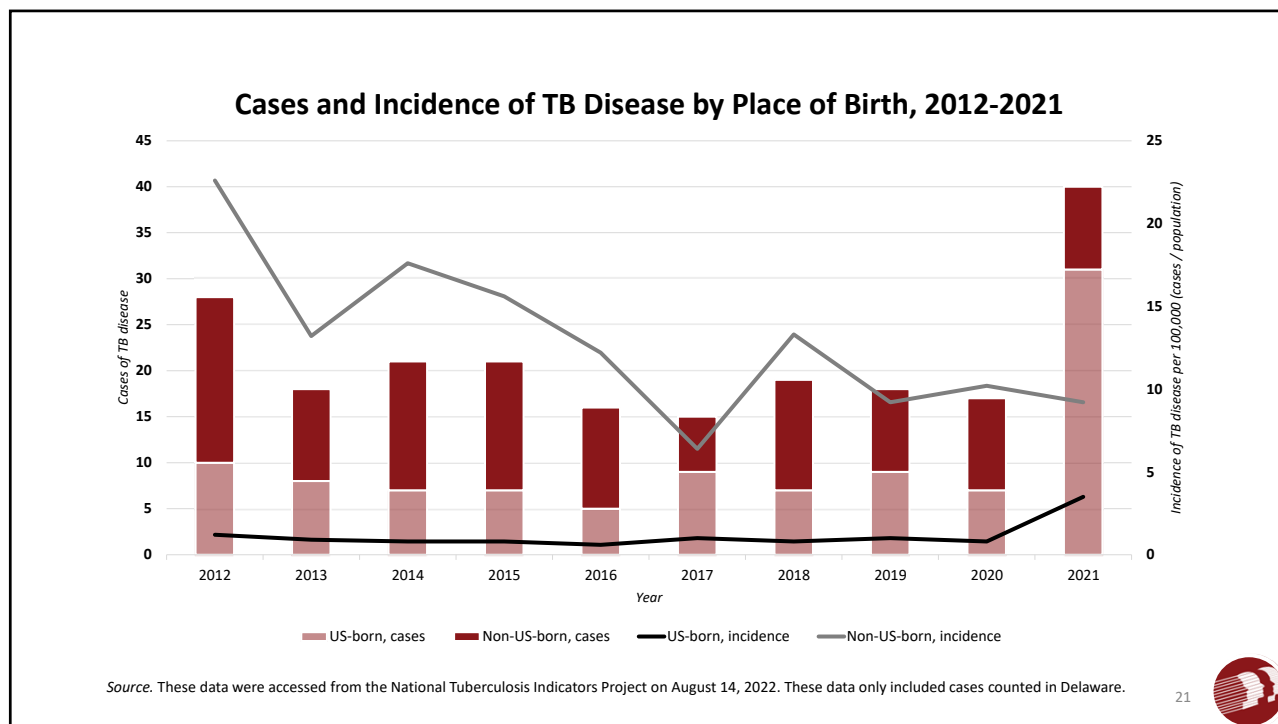
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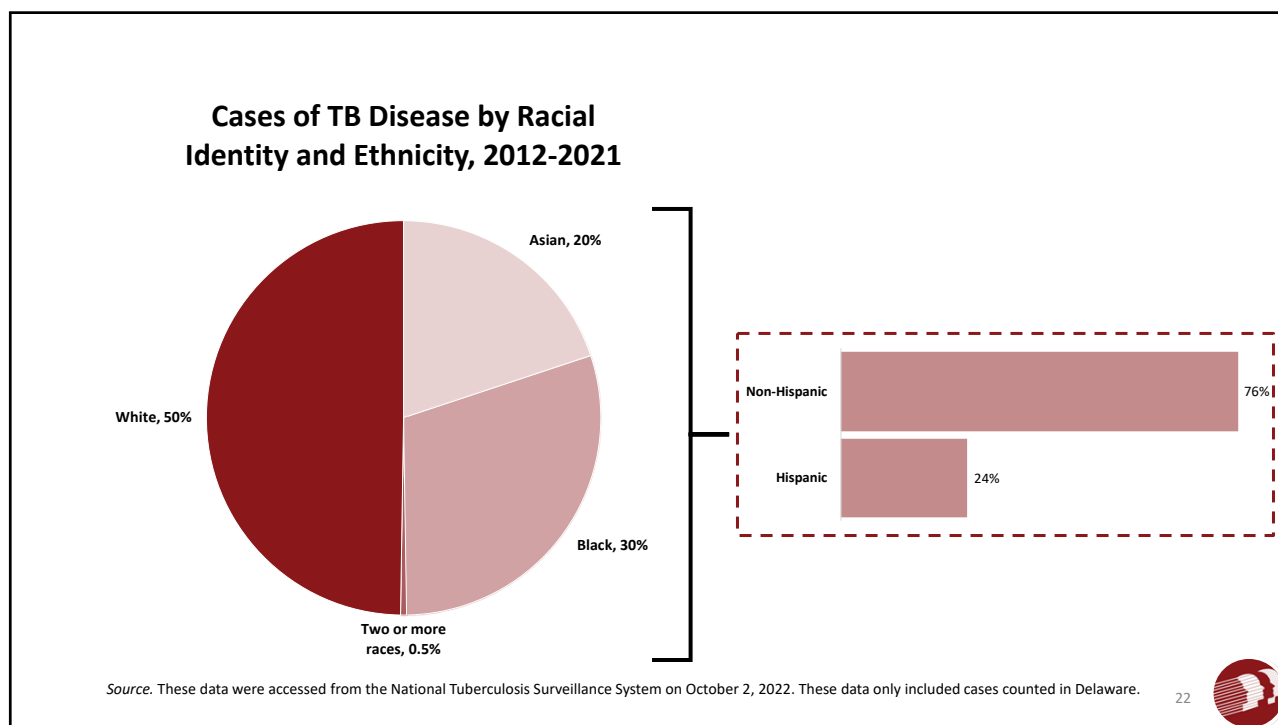
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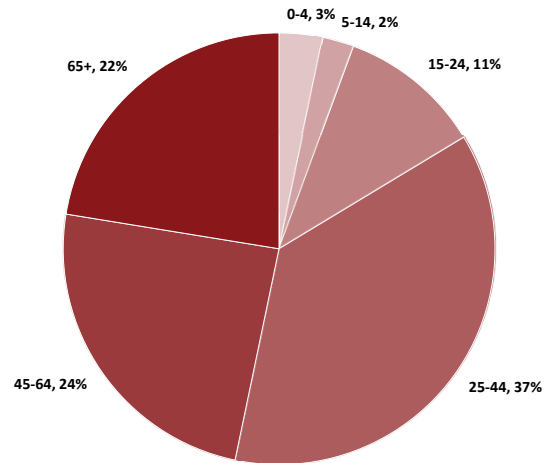


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### Cases of TB Disease by Age Group, 2012-2021



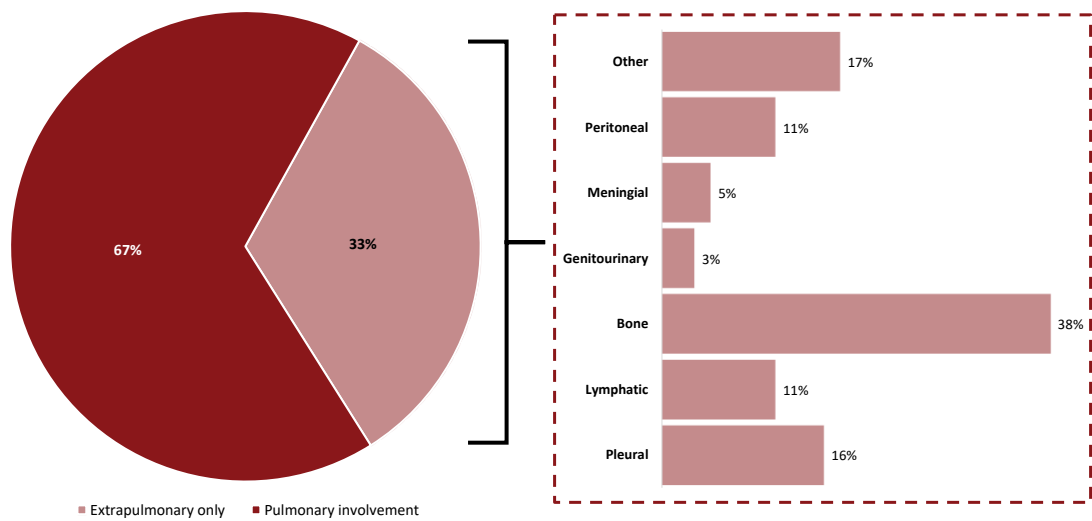
Source. These data were accessed from the National Tuberculosis Surveillance System on October 2, 2022. These data only included cases counted in Delaware.

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### Cases of TB Disease by Site of Disease, 2012-2021



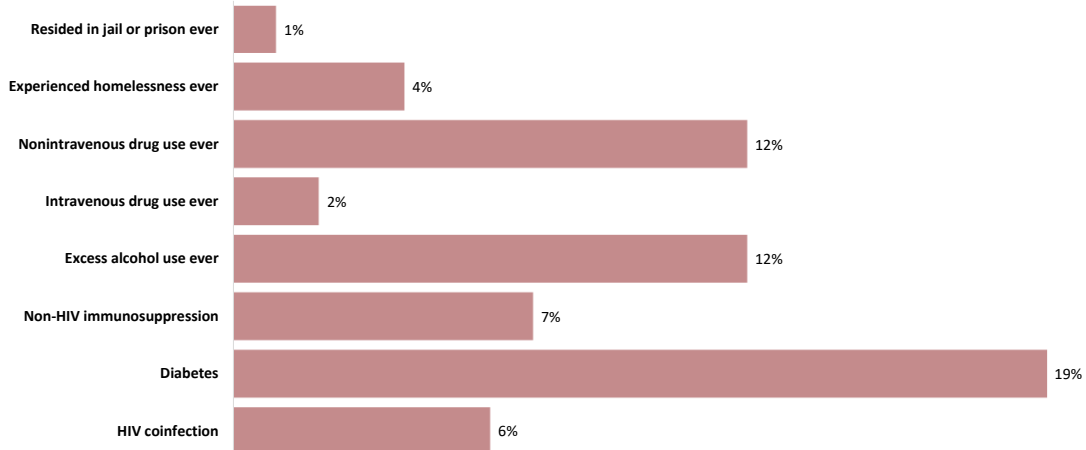
Source. These data were accessed from the National Tuberculosis Surveillance System on October 2, 2022. These data only included cases counted in Delaware.

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## Selected Social and Medical Risk Factors among People with TB Disease Aged 15 Years and Older, 2012-2021



Source. These data were accessed from the National Tuberculosis Surveillance System on October 2, 2022. These data only included cases counted in Delaware.

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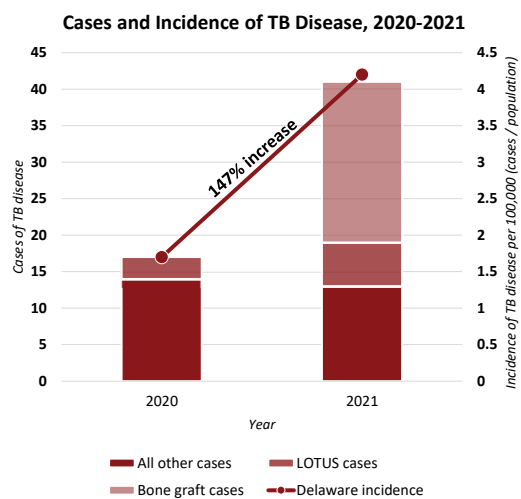


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## What happened in 2021?

### Two outbreaks

- Bone allograft outbreak
  - People developed TB disease after spinal surgery
  - Transmission via bone graft last described in 1953
- LOTUS
  - Ongoing for many years (2018-present)
  - Risk factors



Source. These data were accessed from the National Tuberculosis Indicators Project and TB GIMS on October 6, 2022. These data only included cases counted in Delaware.

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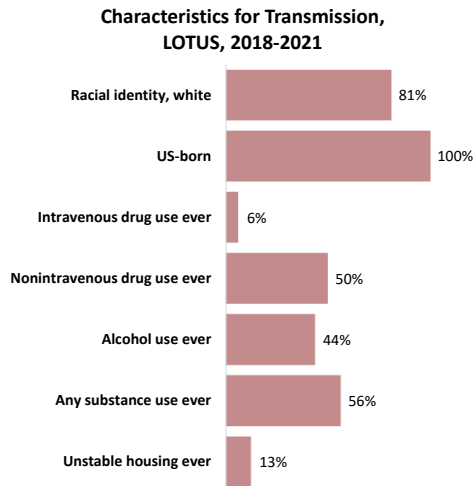


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# What happened in 2021?

## Two outbreaks

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  - People developed TB disease after spinal surgery
  - Transmission via bone graft last described in 1953
- LOTUS
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## Conclusions

### Delaware

- **“Think TB” in the context of Delaware** → demographics, risk factors

### Nationally

- TB rates in the United States are at historic lows
- People born outside the United States account for most cases of TB disease, most are reactivation

### Globally

- Incidence of TB disease declined over past 20 years
- Many people still get TB

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