


National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention  
Division of Tuberculosis Elimination




## Tuberculosis and COVID-19: Impact on Programs and Services in the United States

### Effect of COVID-19 on TB Surveillance

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Surveillance, Epidemiology, and Outbreak Investigations Branch

July 16, 2021



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## Tuberculosis in the United States — 2020\*


Centers for Disease Control and Prevention  
**MMWR**  
Morbidity and Mortality Weekly Report  
Weekly / Vol. 70 / No. 12  
March 26, 2021

### Tuberculosis — United States, 2020

Molly Drozick-Feldman, PhD<sup>1,2</sup>; Robert H. Pratt<sup>3</sup>; Sandy E. Price<sup>2</sup>; Christine A. Tang, MPH<sup>1</sup>; Julie L. Self, PhD<sup>1</sup>

Tuberculosis (TB) disease incidence has decreased steadily since 1993 (1), a result of decades of work by local TB programs to detect, treat, and prevent TB disease and transmission. During 2020, a total of 7,163 TB cases were provisionally reported to the National Tuberculosis (TB) Surveillance System. CDC. Among these reports, <5% of the data were missing, providing further confidence that they were reasonably complete. Provisional data were used to calculate national- and state-level TB case counts. Mdyers U.S. Census Bureau population esti-

\*Data are provisional, as of February 17, 2021, as reported to the National Tuberculosis (TB) Surveillance System



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# 20% decline in TB incidence

Molly Drozick-Feldman, PhD<sup>1,2</sup>; Robert H. Pratt<sup>3</sup>; Sandy E. Price<sup>2</sup>; Christine A. Tang, MPH<sup>1</sup>; Julie L. Self, PhD<sup>1</sup>

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**Hypotheses for decline in reported TB**



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**Hypotheses for decline in reported TB**



True decline in incidence

- Decline in international travel and immigration
- Improved TB control
- Effects of COVID-19 disease or interventions
  - Decreased TB transmission
  - Increased mortality among people at risk for TB



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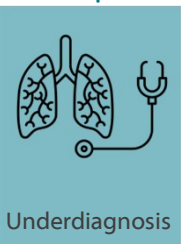
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**Hypotheses for decline in reported TB**




True decline in incidence



Underdiagnosis

- Patient reluctance to seek health care
- Low suspicion for TB
- Missed or delayed TB diagnosis
- Reduced public health capacity for active case finding



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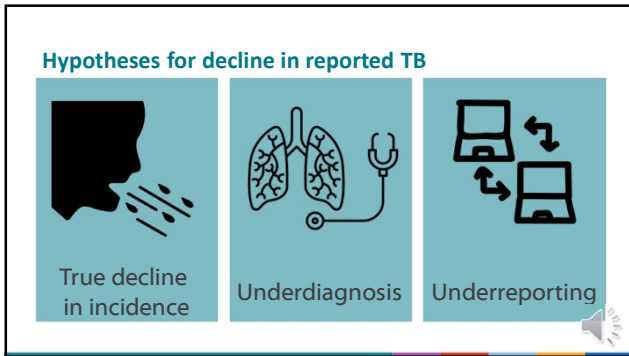
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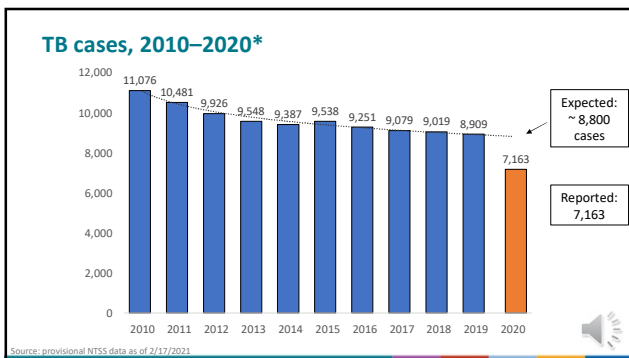
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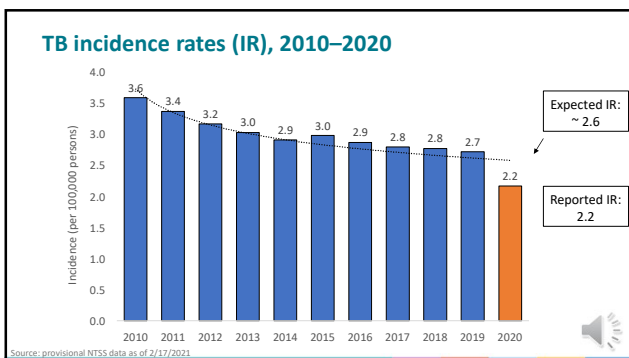
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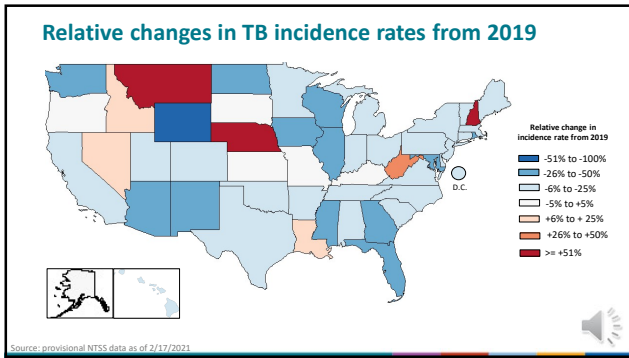
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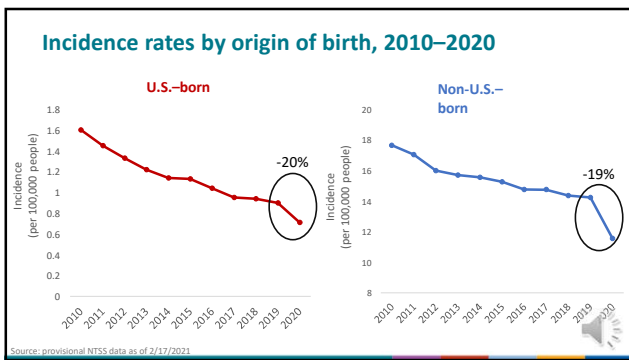
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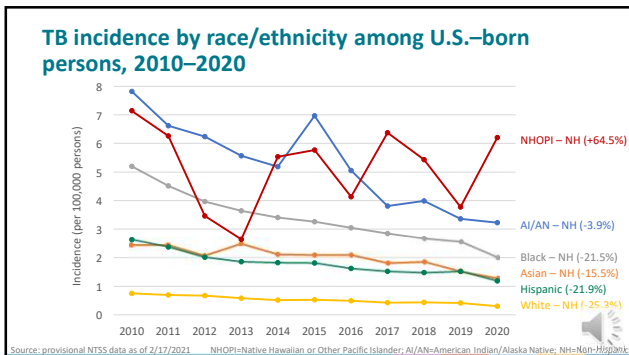
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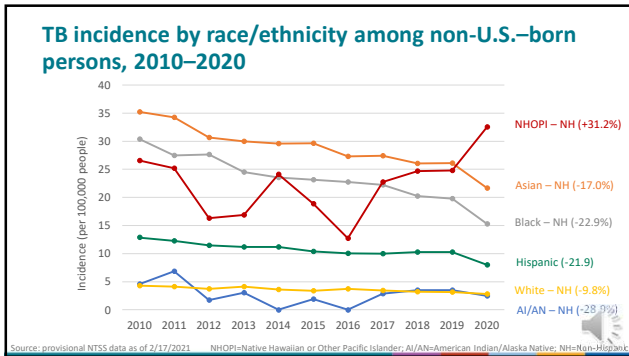
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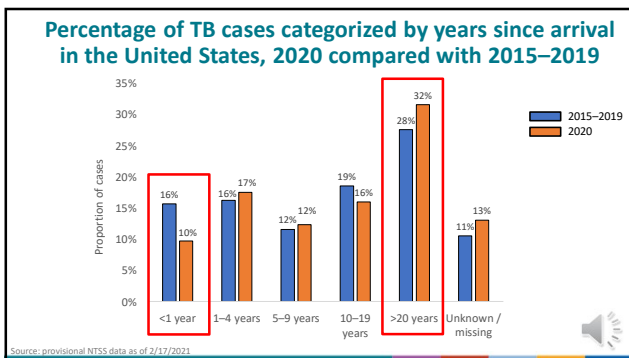
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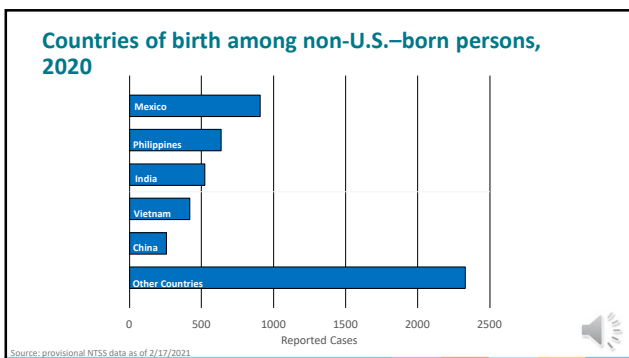
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### Age distribution, 2015–2019 vs. 2020

Age category (years)	2015–2019	2020
0–4	2%	2%
5–14	2%	2%
15–24	10%	10%
25–44	30%	29%
45–64	31%	30%
65+	25%	26%

Source: provisional NTSS data as of 2/17/2021

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### Reason evaluated for TB, 2015–2019 vs. 2020

	2015–2019	2020
Abnormal x-ray	20%	20%
Contact tracing	4%	5%
Employee test	0.7%	0.4%
Health care worker	0.2%	0.2%
Immigration exam	2%	1%
Incidental	12%	10%
Targeted testing	4%	4%
<b>TB symptoms</b>	<b>57%</b>	<b>60%</b>

Source: provisional NTSS data as of 2/17/2021

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### Comparison of key variables 2015–2019 vs. 2020

	2015–2019	2020
US-born*	30%	29%
Average years in United States**	14.3 years	16.0 years
Experienced homelessness	5%	4%
Resident of correctional facility	3%	2%
Resident of long-term care facility	2%	2%
Smear AFB positive*	44%	47%
Culture positive*	68%	69%

\*Required as part of provisional data set  
\*\*Among non-U.S.-born persons

Source: provisional NTSS data as of 2/17/2021

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**Summary**

- Steep decline in reported TB cases and incidence rate
- Little difference in key variables
- Similar declines across origin of birth and most racial/ethnic groups
- Change among new arrivals to United States



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**Additional investigations**



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**DTBE data sources**

- National Tuberculosis Surveillance System
  - Demographic, risk factor, and reason evaluated variables
  - Clinical characteristics and disease severity
  - Association between change in TB incidence and COVID incidence by state
- TB Genotyping Information Management System
  - Frequency of genotype clusters and characteristics of clustered cases
  - Estimates of recent transmission
- Other DTBE program data sources
- **Monitoring 2021 case reports**



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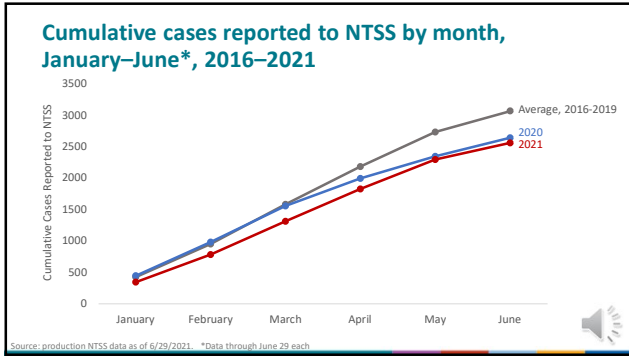
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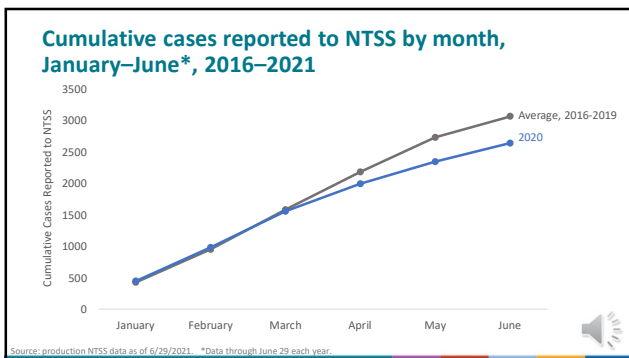
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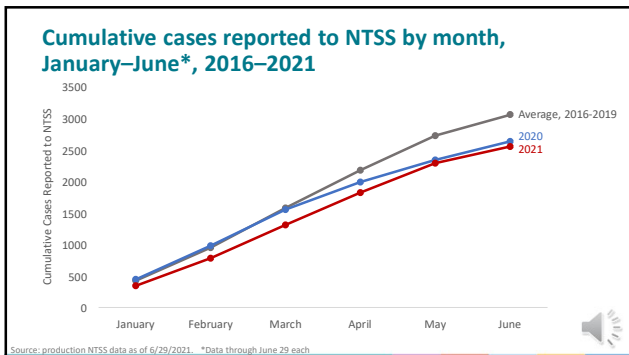
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**External Data Sources**

- Outpatient retail pharmacy data (IQVIA)
- Immigrant and refugee screening data (EDN)
- Hospital administration data (HCUP)
- Electronic health record data (OCHIN)
- TB mortality (vital statistics) data



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**Conclusions**

- State and local TB programs successfully met TB reporting deadline in spite of staffing and resource challenges
- 20% decline in reported TB in 2020 is likely due to underdiagnosis as well as a true decline in TB incidence
- Further analyses of 2020 TB data and monitoring of 2021 case reports are ongoing
- Concern that decline in 2020 will not be sustained if largely a result of underdiagnosis or reduced immigration
- Concern that preliminary data for 2021 are consistent with the decline observed in 2020



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**Thank you!**

- Molly Deutsch-Feldman
- Clarisse Tsang
- Bob Pratt
- Sandy Price
- Cindy Adams
- Adam Langer
- State and local TB partners
- Division of TB Elimination

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 www.cdc.gov



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