

# Tuberculosis: Is TB Still a Zebra?

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# TB in the News & Worried Well: Follow Screening Guidelines

**LTBI testing is recommended if any of the boxes below are checked.**

Only repeat TB testing if there is a new risk factor since last screening

	<b>Temporary or permanent residence of <math>\geq 1</math> month in a country with a high TB rate</b>	YES <input type="checkbox"/>
	Any country other than the United States, Canada, Australia, New Zealand, and those in Northern Europe or Western Europe	NO <input type="checkbox"/>
OR		
	<b>Current or planned immunosuppression,</b>	YES <input type="checkbox"/>
	including human immunodeficiency virus (HIV) infection, organ transplant recipient, treatment with a TNF-alpha antagonist (e.g., infliximab, etanercept, or other), chronic steroids (equivalent of prednisone $\geq 15$ mg/day for $\geq 1$ month) or other immunosuppressive medication	NO <input type="checkbox"/>
OR		
	<b>Close contact with someone who has had infectious TB disease since the last TB test</b>	YES <input type="checkbox"/>
		NO <input type="checkbox"/>

“I went to a Chief’s game”

No risk, go through questions

“I visited Kansas City”

No risk, go through questions

“I have been living with my aunt in Kansas City. She called to say that my uncle has TB”

Contact Public Health to see if they are a close contact to the situation in Kansas.

*Note: There are no known exposures associated with Arizona*

# Public Health in the US Stops the TB Cycle

- The natural history of TB:
  - Highest risk of developing TB disease is in the first 2 years after breathing in the germ (about 5% of immunocompetent adults with Latent TB)
  - After calcification of the nodule, annual risk greatly decreases but lifetime risk remains (reactivation) (about 5% additional lifetime risk)
- US doesn't follow that pattern as over 80% of TB is not clustered
- Contact Investigations:
  - Tests exposed individuals for latent TB and offers treatment BEFORE they become ill
  - Finds people with TB disease early in the disease continuum, treats them early, decreasing risk of spreading TB germs to others

# Arizona Tuberculosis

Reported & counted cases for 2023

# 202

**First time  
200+,  
since 2012  
(211 cases)**

## Count



31% increase from 2022



29% increase 5-yr Hx ave

## Incidence

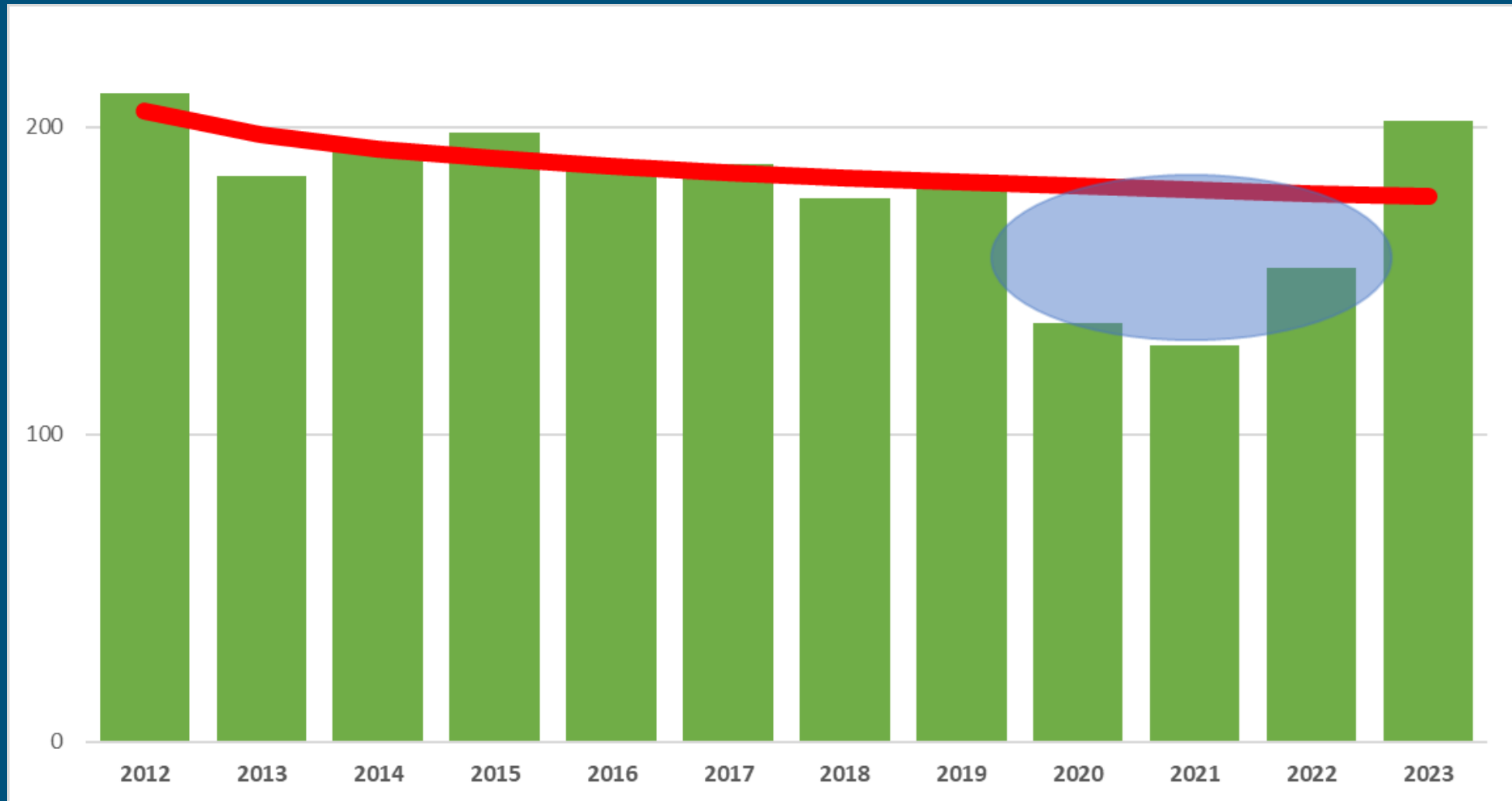


29% increase from 2022

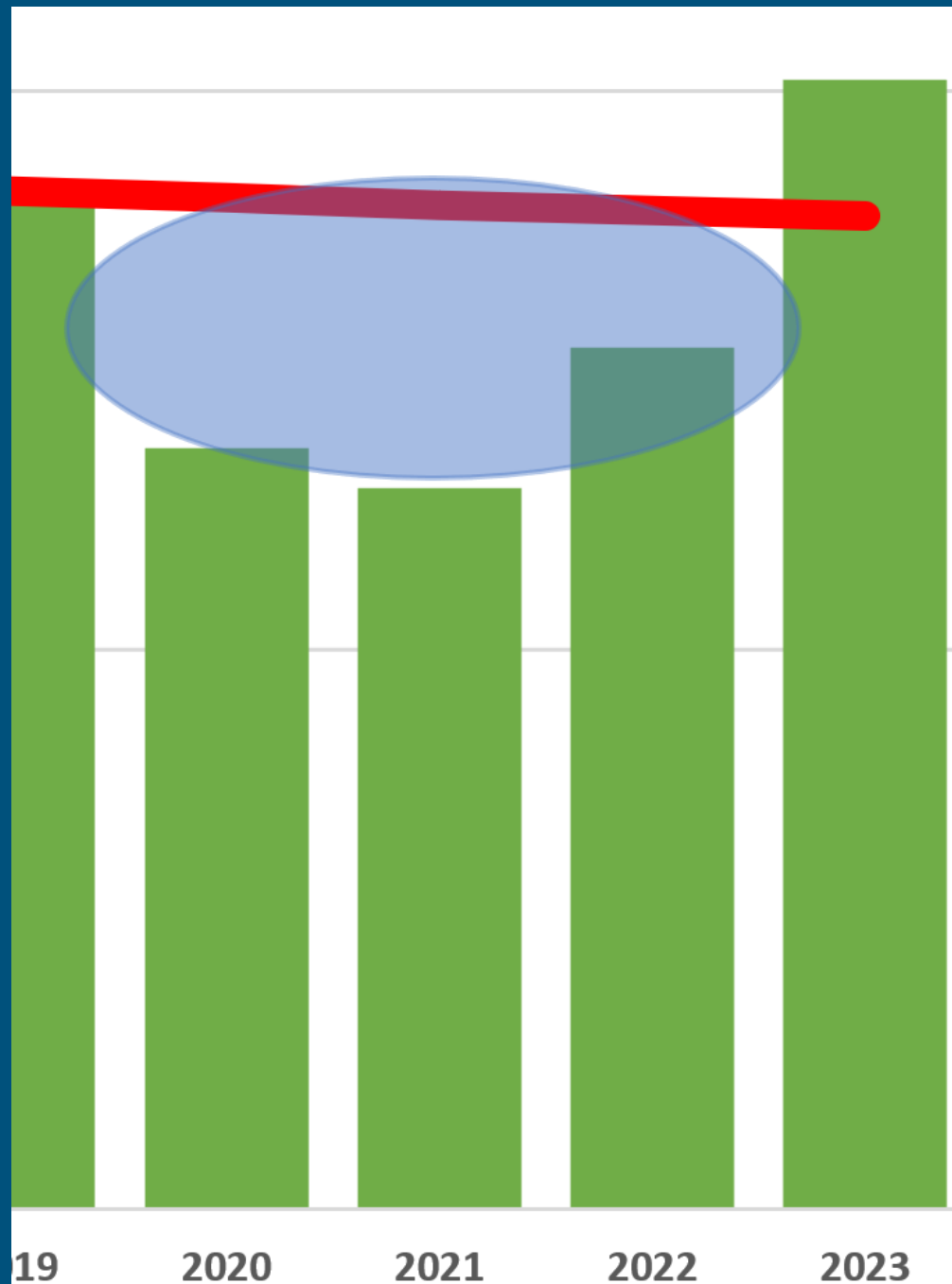


24% increase 5-yr Hx ave

# Digging into the 2023 wave



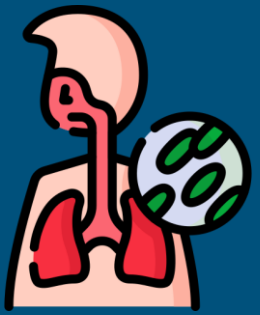
*\*model using 2012-2019 data for 2020-2023 predictions*



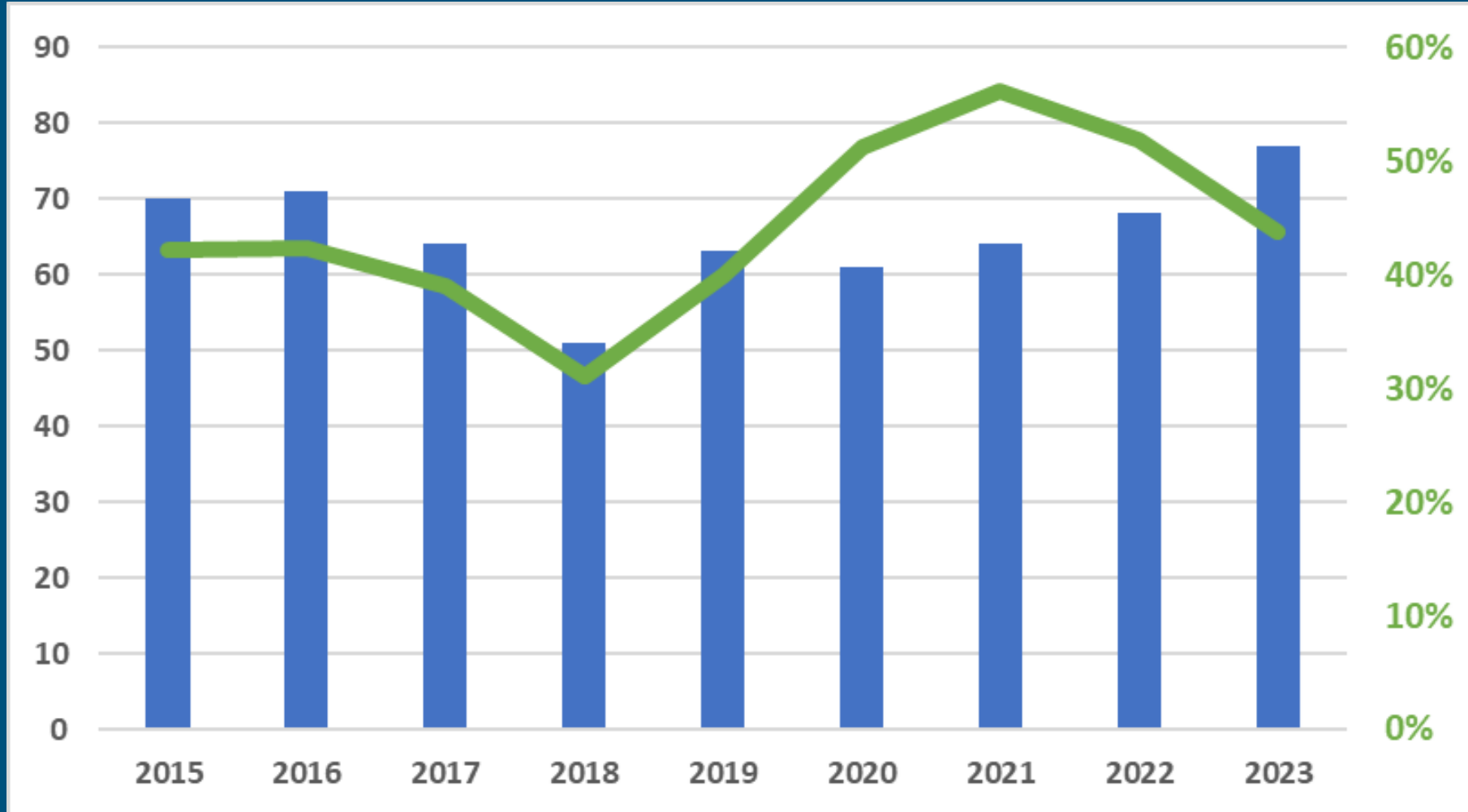
<u>Year</u>	<u>Actual</u>	<u>Expected</u>	<u>Diff</u>
2012	211	205	6
2013	184	197	-13
2014	193	193	0
2015	198	190	8
2016	188	187	1
2017	188	185	3
2018	177	183	-6
2019	184	182	2
2020	136	181	-45
2021	129	180	-51
2022	154	178	-24
2023	202	178	24

-120

# Sputum Smear Positive Count & Positivity Rate



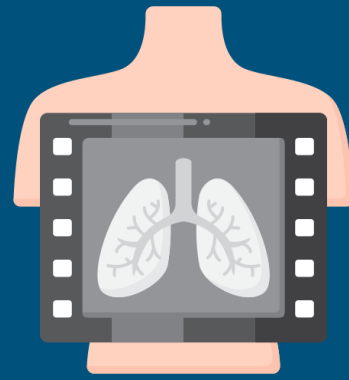
Ave  
Positive:  
**65**



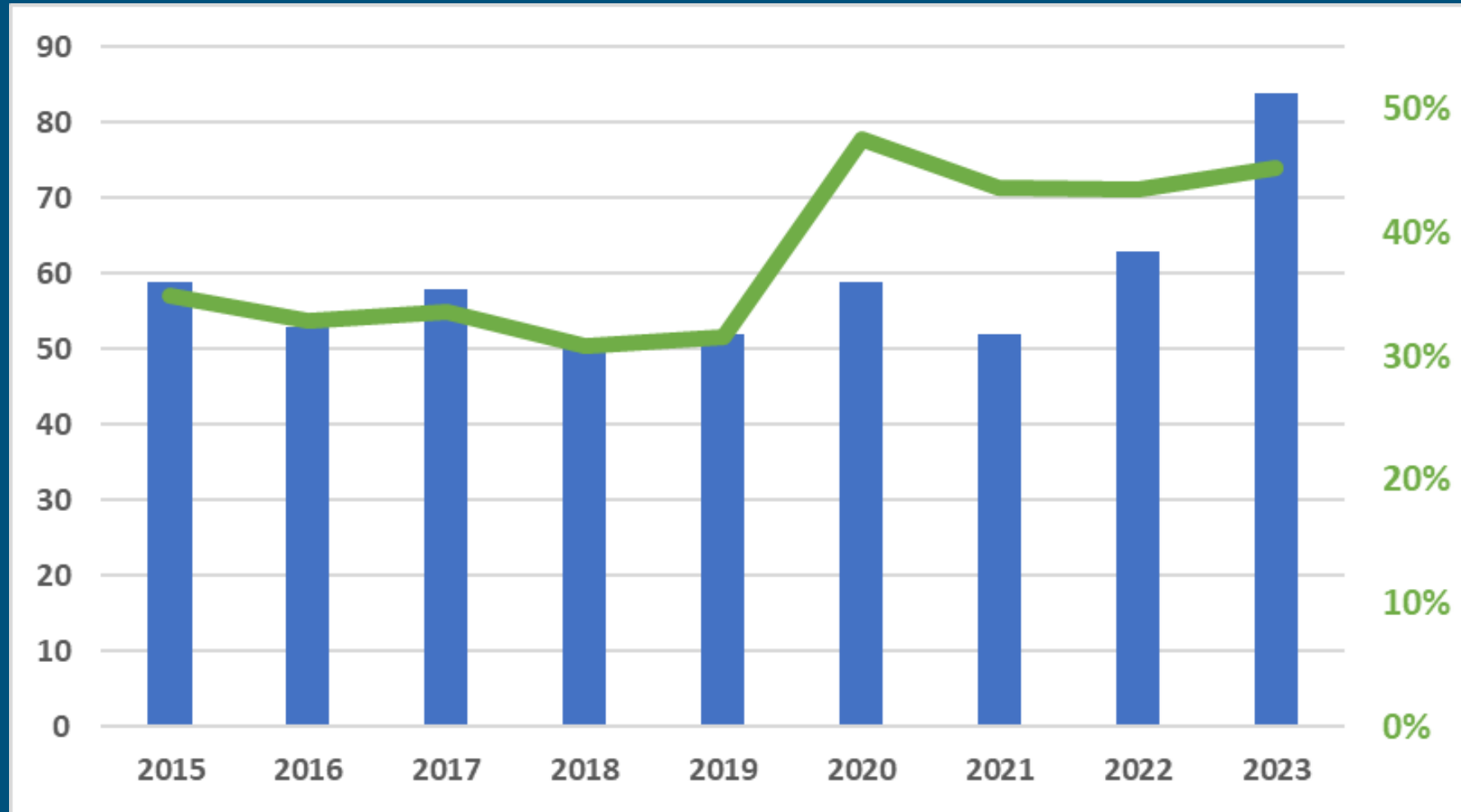
Ave  
Positivity:  
**44%**

*\*only persons with one or more valid sputum smear reports are included in the positivity denominator*

# Chest Images Reporting Cavity and Cavitory rate



Ave  
Positive:  
**59**



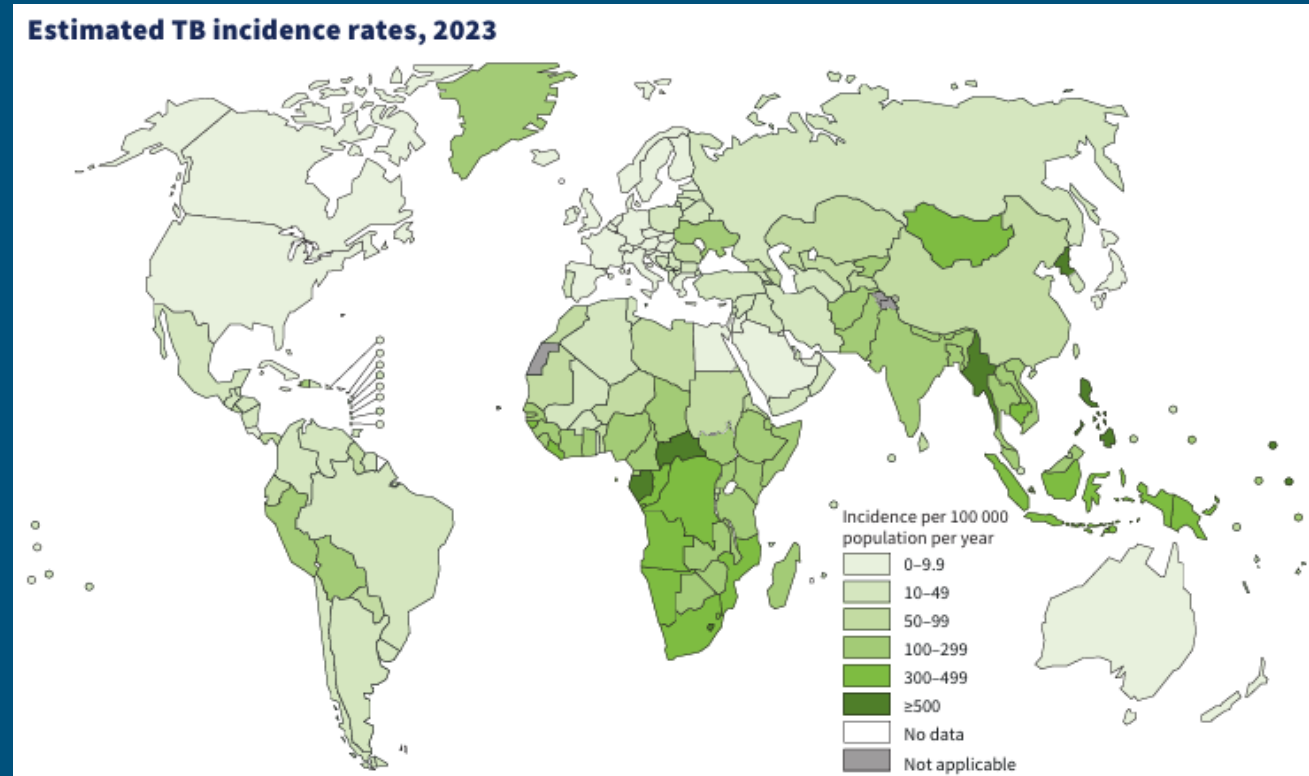
Ave  
Positivity:  
**38%**

*\*only persons with one or more TB consistent chest images are the denominator*



# Despite increase, TB is still a Zebra in AZ & US

- In 2023, the US reported **9,633** cases of TB disease
- The TB Incidence rate was **2.9 per 100,000**
- AZ case rate was **2.7 per 100,000**
  - **150** of 202 were pulmonary culture positive
  - **77** were sputum smear positive



<https://www.who.int/publications/i/item/9789240101531>

# “New” Things in TB

- Short course all oral MDR TB Treatment! BPaL(M)
  - 6 to 9 months, well tolerated in general
  - If you have an NAA showing RIF mutation, contact public health for further lab tests and recommendations
  - Note: about half of RIF mutations in AZ are silent mutations that do not confer resistance.
- Short course Rifapentine based treatment for TB is generally not appropriate for hospitalized patients. Article is an addendum to the 2016 Guideline = RIPE is regimen for almost all TB patients.
  - Rifapentine may not be available for full treatment period
  - INH resistance is around 10% in Arizona
  - Rifapentine based regimen reported by NYC and San Francisco to be poorly tolerated in practice (less than 50% who started, completed on this regimen.)
- Community Based Respiratory Restrictions updated! AZID topic

## Updates on the Treatment of Drug-Susceptible and Drug-Resistant Tuberculosis

An Official ATS/CDC/ERS/IDSA Clinical Practice Guideline

Jussi J. Saukkonen\*, Raquel Duarte\*, Sonal S. Munsiff\*, Carla A. Winston\*, Manoj J. Mammen, Ibrahim Abubakar, Carlos Acuña-Villaorduña, Pennan M. Barry, Mayara L. Bastos, Wendy Carr, Hassan Chami, Lisa L. Chen, Terence Chorba, Charles L. Daley, Anthony J. Garcia-Prats, Kelly Holland, Ioannis Konstantinidis, Marc Lipman, Giovanni Battista Migliori, Farah M. Parvez, Adrienne E. Shapiro, Giovanni Sotgiu, Jeffrey R. Starke, Angela M. Starks, Sanket Thakore, Shu-Hua Wang, Jonathan M. Wortham, and Payam Nahid; on behalf of the American Thoracic Society, U.S. Centers for Disease Control and Prevention, European Respiratory Society, and Infectious Diseases Society of America

THIS OFFICIAL CLINICAL PRACTICE GUIDELINE WAS APPROVED BY THE AMERICAN THORACIC SOCIETY (ATS) AND THE INFECTIOUS DISEASES SOCIETY OF AMERICA (IDSA) SEPTEMBER 2024, WAS CLEARED BY THE U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) SEPTEMBER 2024, AND WAS APPROVED BY THE EUROPEAN RESPIRATORY SOCIETY (ERS) OCTOBER 2024

# Trends to keep an eye on

- Raw milk
  - Pasteurization decreased childhood TB from M. Bovis (TB from cows)
  - Unpasteurized Queso Fresco can result in TB disease from infected milk
  - Herds in the US are monitored for TB. There have been a few detected and addressed over the past couple of years.
- Raw meat diet for pets
  - Deer can also have TB (M bovis strain), which can be transmitted to pets in raw food diets.
- TB champion, author John Green: One example of him talking about TB is this [video](#) for the general public

Yes, TB is still a Zebra  
But the herd is going strong  
Thanks for keeping an eye out for it!

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