

# Pediatric Updates



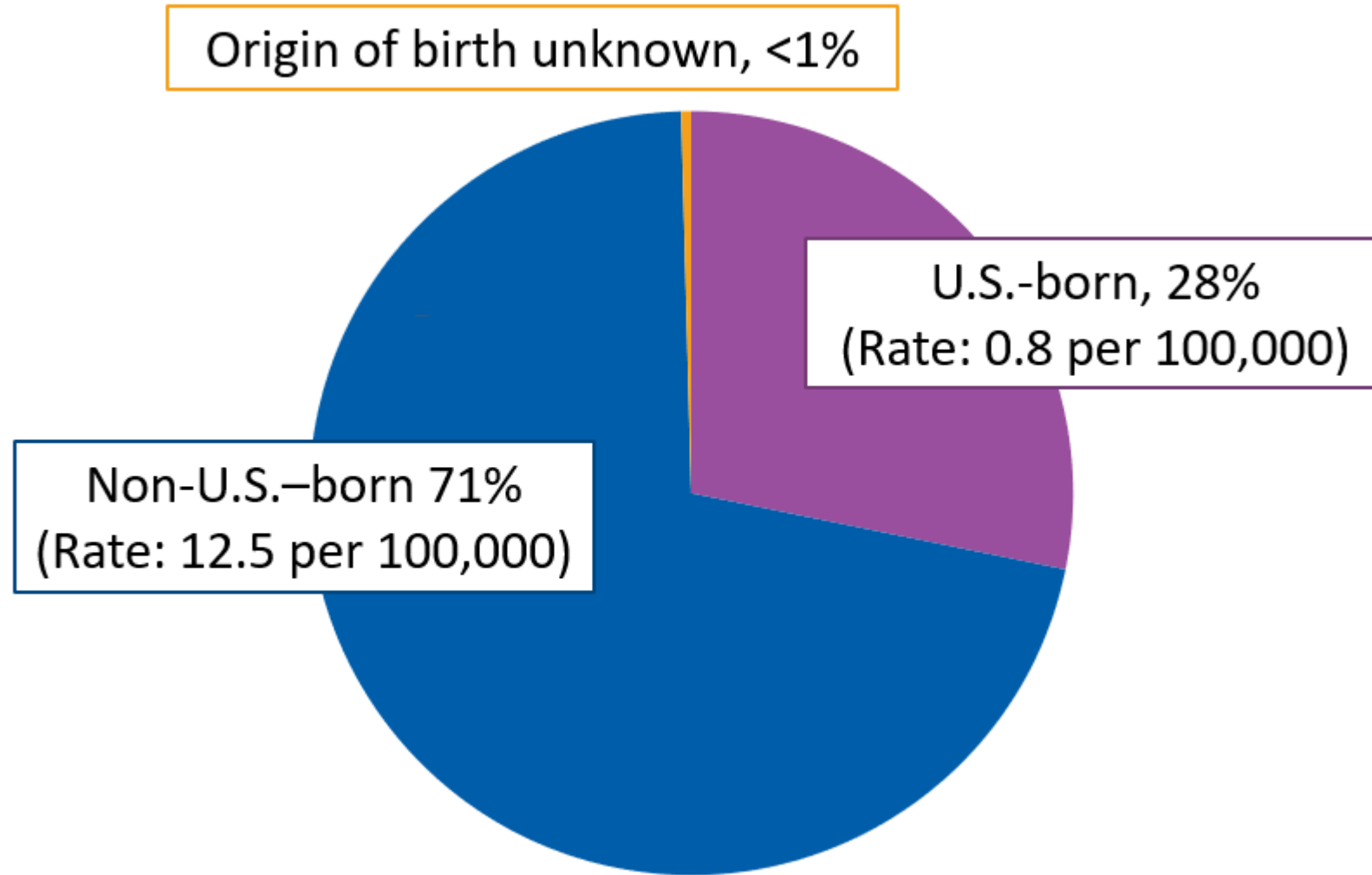
# US Pediatric Tuberculosis

- Definition of pediatric tuberculosis (TB):
  - TB disease in a person <15 years old
- In 2022:
  - 8300 TB cases were reported among all age groups
  - 317 (4.4%) were pediatric

Age group	2019	2020	2021	2022	Percentage of all cases
0–4 years	215	160	160	<b>202</b>	2.0-2.4%
5–14 years	152	157	156	<b>161</b>	1.9-2.0%

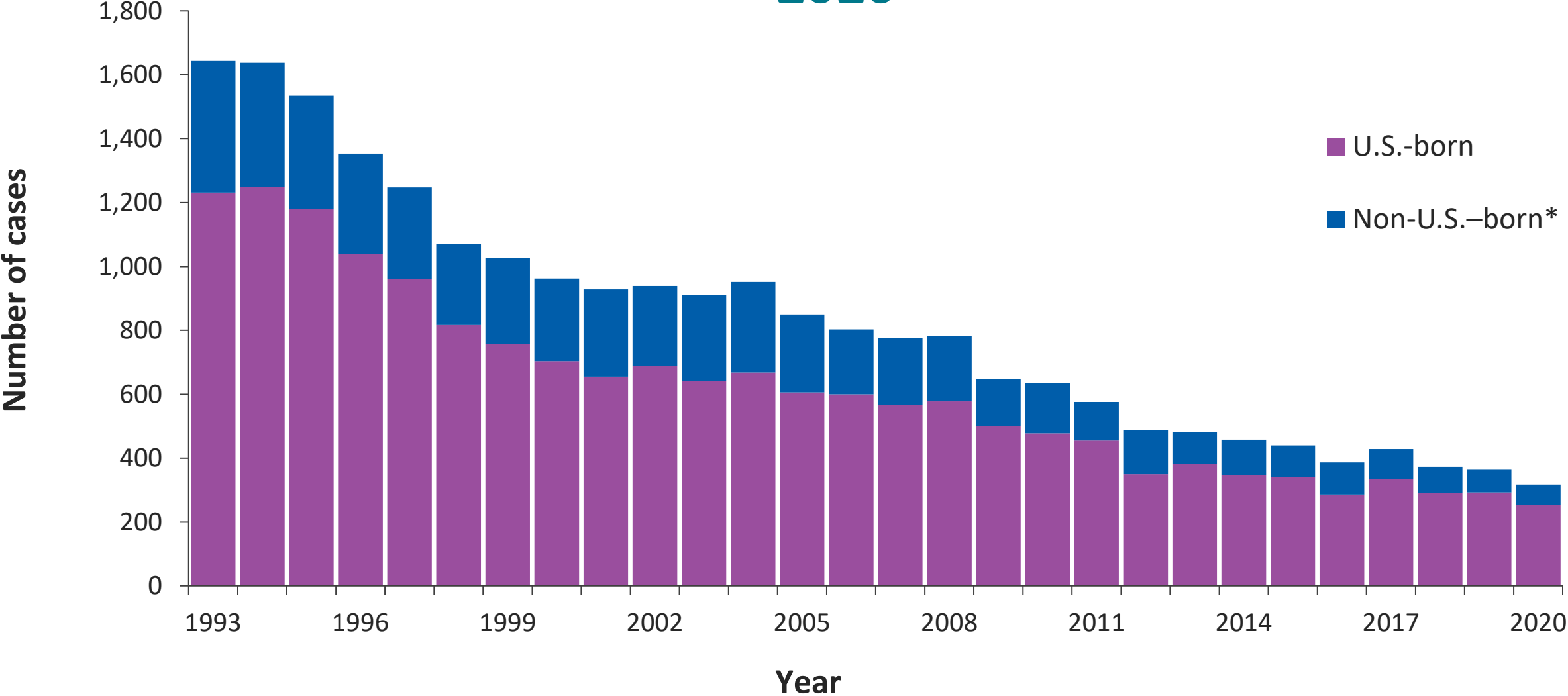


## TB Incidence Rates and Percentages by Origin of Birth,<sup>\*</sup> United States, 2021 (N=7,849)



<sup>\*</sup>Persons born in the United States, certain U.S. territories, or elsewhere to at least one U.S. citizen parent are categorized as U.S.-born. All other persons are categorized as non-U.S.-born.

# Pediatric TB Cases by Origin of Birth, United States, 1993–2020



\*Non-U.S.-born refers to persons born outside the United States or its territories or not born to a U.S. citizen

# New from the American Academy of Pediatrics Red Book



# 3HP

- Preferred regimen for children 5 years and older
  - This is up from 2 years and older
  - This regimen is still recommended for children down to 2 y/o
  - Recognizing dosing in children < 5 y/o could be challenging





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## Shorter Treatment for Nonsevere Tuberculosis in African and Indian Children

A. Turkova, G.H. Wills, E. Wobudeya, C. Chabala, M. Palmer, A. Kinikar, S. Hissar, L. Choo, P. Musoke, V. Mulenga, V. Mave, B. Joseph, K. LeBeau, M.J. Thomason, R.B. Mboizi, M. Kapasa, M.M. van der Zalm, P. Raichur, P.K. Bhavani, H. McIlhleron, A.-M. Demers, R. Aarnoutse, J. Love-Koh, J.A. Seddon, S.B. Welch, S.M. Graham, A.C. Hesselning, D.M. Gibb, and A.M. Crook, for the SHINE Trial Team\*

# Primary Efficacy Analysis (Modified Intention-to-Treat Population).

<b>Table 2. Primary Efficacy Analysis (Modified Intention-to-Treat Population).*</b>				
Outcome	4-Month Treatment (N = 572)	6-Month Treatment (N = 573)	Difference (95% CI)	
			Adjusted Analysis†	Unadjusted Analysis
			<i>percentage points</i>	
Unfavorable status — no. (%)	16 (3)	18 (3)	−0.4 (−2.2 to 1.5)	−0.3 (−2.3 to 1.6)
Death from any cause after 4 mo	7 (1)	12 (2)		
Loss to follow-up after 4 mo but during treatment period	0‡	1 (<1)		
Treatment failure				
Tuberculosis recurrence	6 (1)	4 (1)		
Extension of treatment	2 (<1)	0		
Restart of treatment§	1 (<1)	1 (<1)		
Favorable status — no. (%)	556 (97)	555 (97)		





# Exclusion Criterion

1. Smear-positive respiratory sample TB

(note: smear-positive peripheral lymph node sample is allowed)

2. Premature (<37 weeks) **and** aged under 3 months

3. Miliary TB, spinal TB, TB meningitis, osteoarticular TB, abdominal TB, congenital TB

4. Pre-existing non-tuberculous disease likely to prejudice the response to, or assessment of, treatment e.g. liver or kidney disease, peripheral neuropathy, cavitation

5. Any known contraindication to taking anti-TB drugs

6. Known contact with drug resistant adult source case (including mono- resistant TB)

7. Known drug resistance in the child

8. Severely sick

9. Pregnancy



# Shorter treatment

- 4 month regimens
  - For children with non-severe disease
    - RIPE for 2 months followed by INH/rifampin for 2 months
    - $\geq 3$  months old
    - 1 lobe of lung, no cavities, no miliary disease, no complex pleural effusions (no meningitis, no bone disease, no abdominal disease)
  - For children  $\geq 12$  years of age
    - 2 months of INH/rifapentine/moxifloxacin/PZA then 2 months of INH/RPT/Moxi
- For young infants, manage with an expert

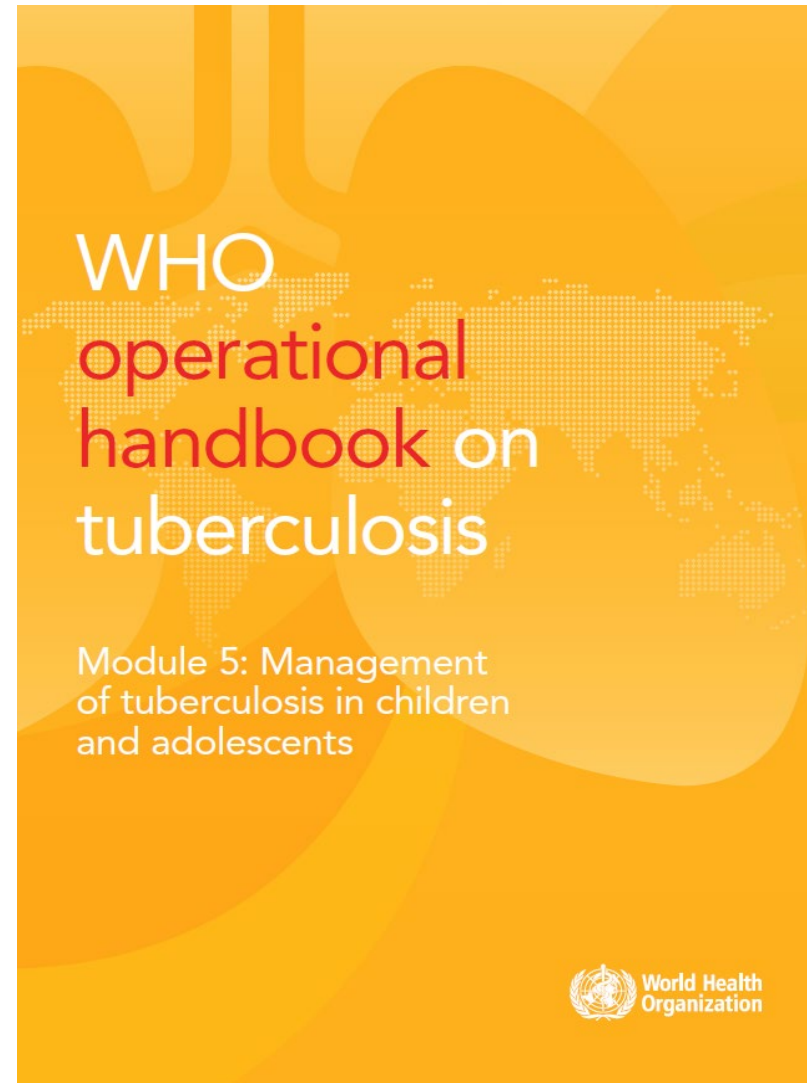


# Drug Resistant TB in Children



## Management of Multidrug-Resistant Tuberculosis in Children: **A FIELD GUIDE**

Fifth Edition, March 2022



# Other Assorted Updates

- TB and HIV in Children
  - Shortened regimens can be considered if the child has nonsevere disease
    - RIPE for 2 months followed by INH/rifampin for 2 months
- Dosing for bedaquiline revised

