World Health Organization

WHO update (latest data from the Global TB Report, policy updates and plans)

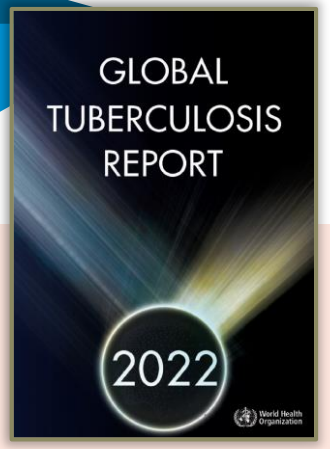
Annemieke Brands & Sabine Verkuijl, WHO GTB

Annual meeting of the Child and Adolescent TB Working Group

29 November 2022

END TB

Global burden estimates (2022 Global TB report)



TB among all ages

10.6 million

People with TB in 2021

1.6 million

TB deaths in 2021

7.5 million

children (0–14) infected with TB each year

(Dodd et al, 2014)

1.15 million

children (0-14 years) developed TB in 2021

(11% of all TB)

47.5% <5 years olds

727 000 adolescents

(10–19 year-olds) developed TB in 2012

(Snow et al, 2018)

209 000

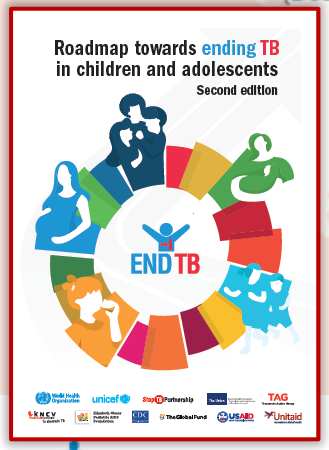
child (0-14) TB deaths in 2021 (13% of all TB deaths)

80% in children <5 years

96% of deaths in children who did not access TB treatment

21 000 (10%) child TB deaths among children living with HIV

(Dodd et al, 2017a)



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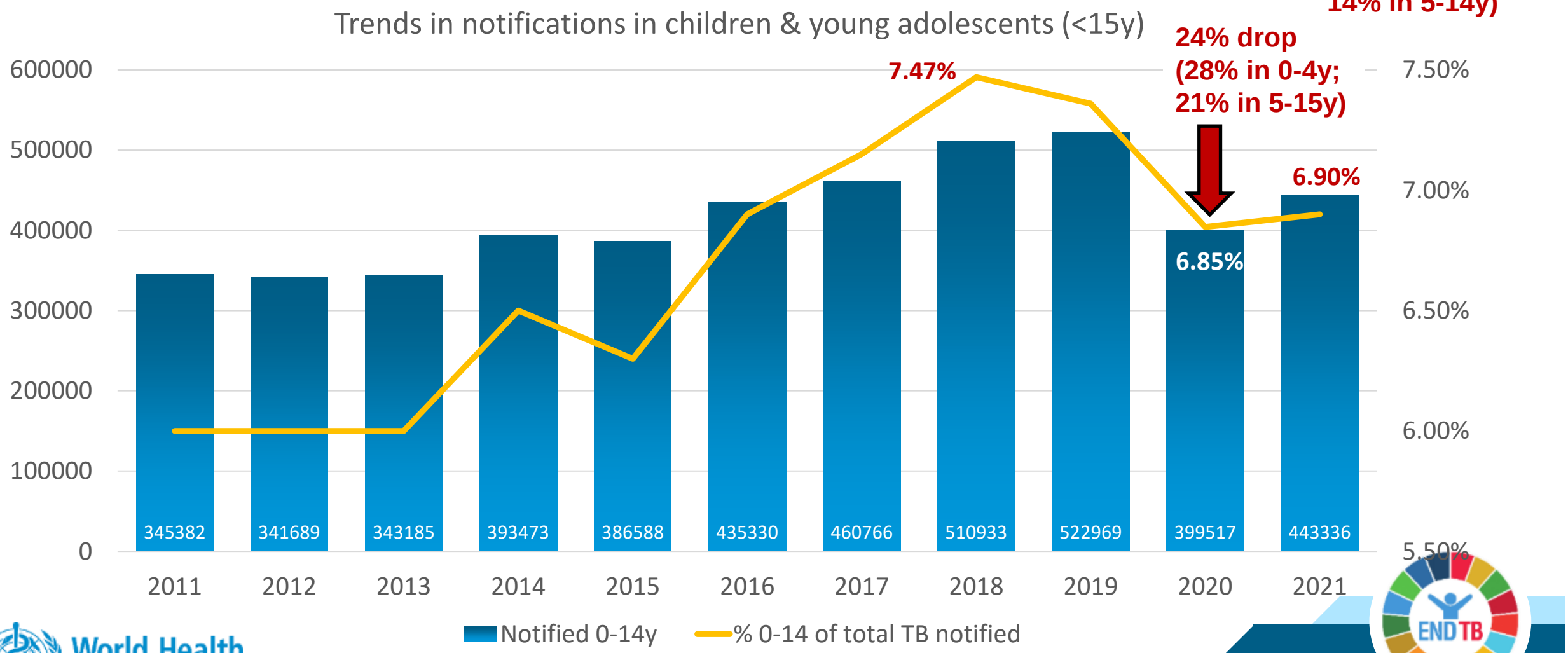
Trends in global child TB notifications

2021:
15% drop vs 2019
(17% in 0-4y;
14% in 5-14y)



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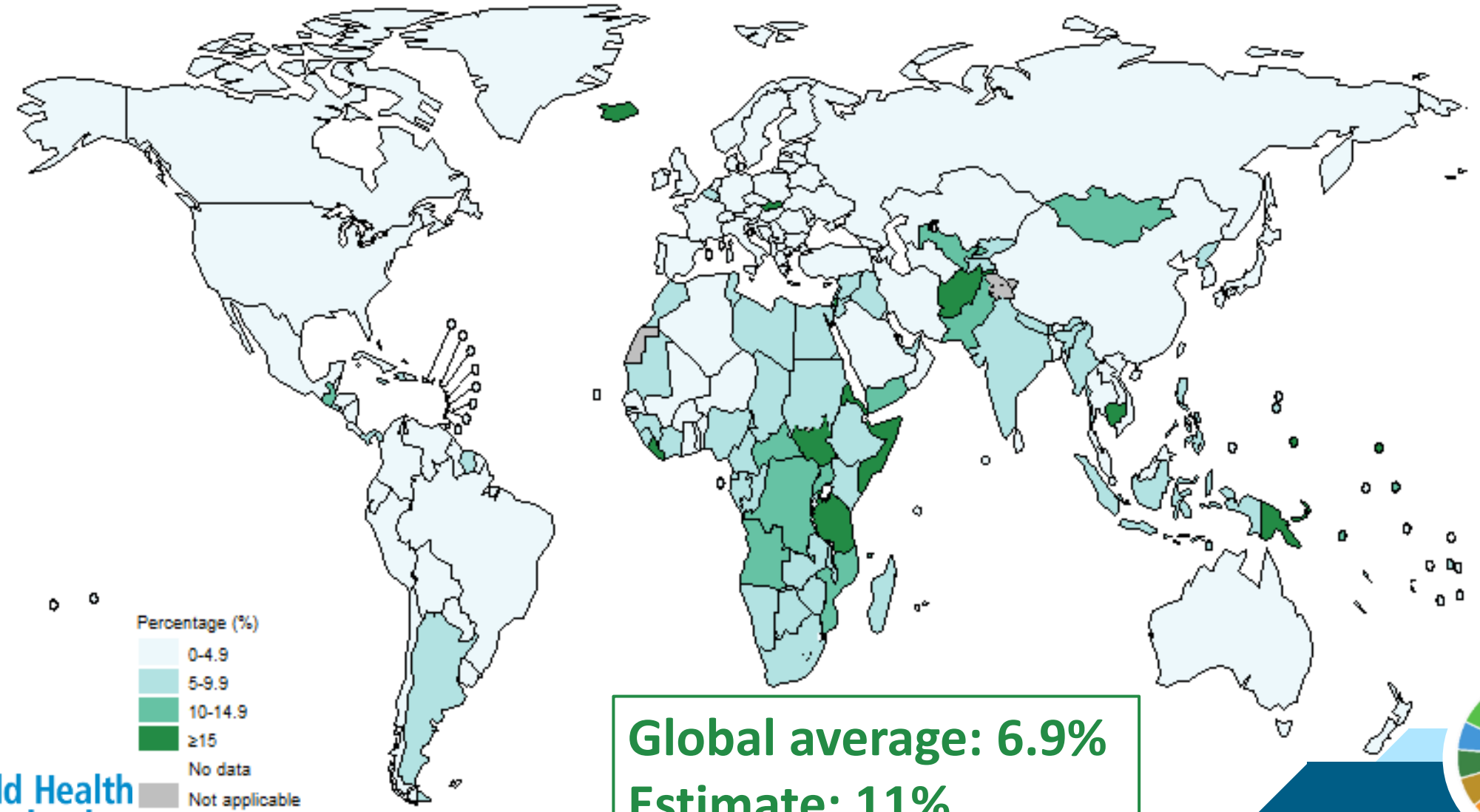
% of people with a new or relapse episode of TB who were aged 0–14y, 2021



Global average: 6.9%

Estimate: 11%

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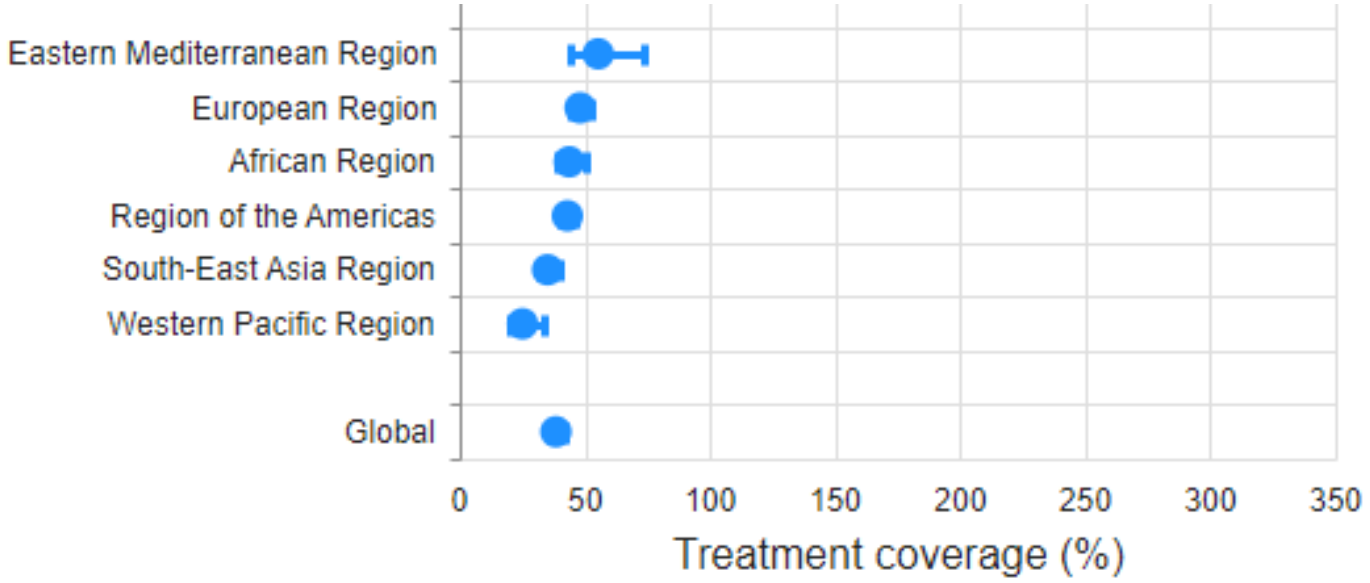
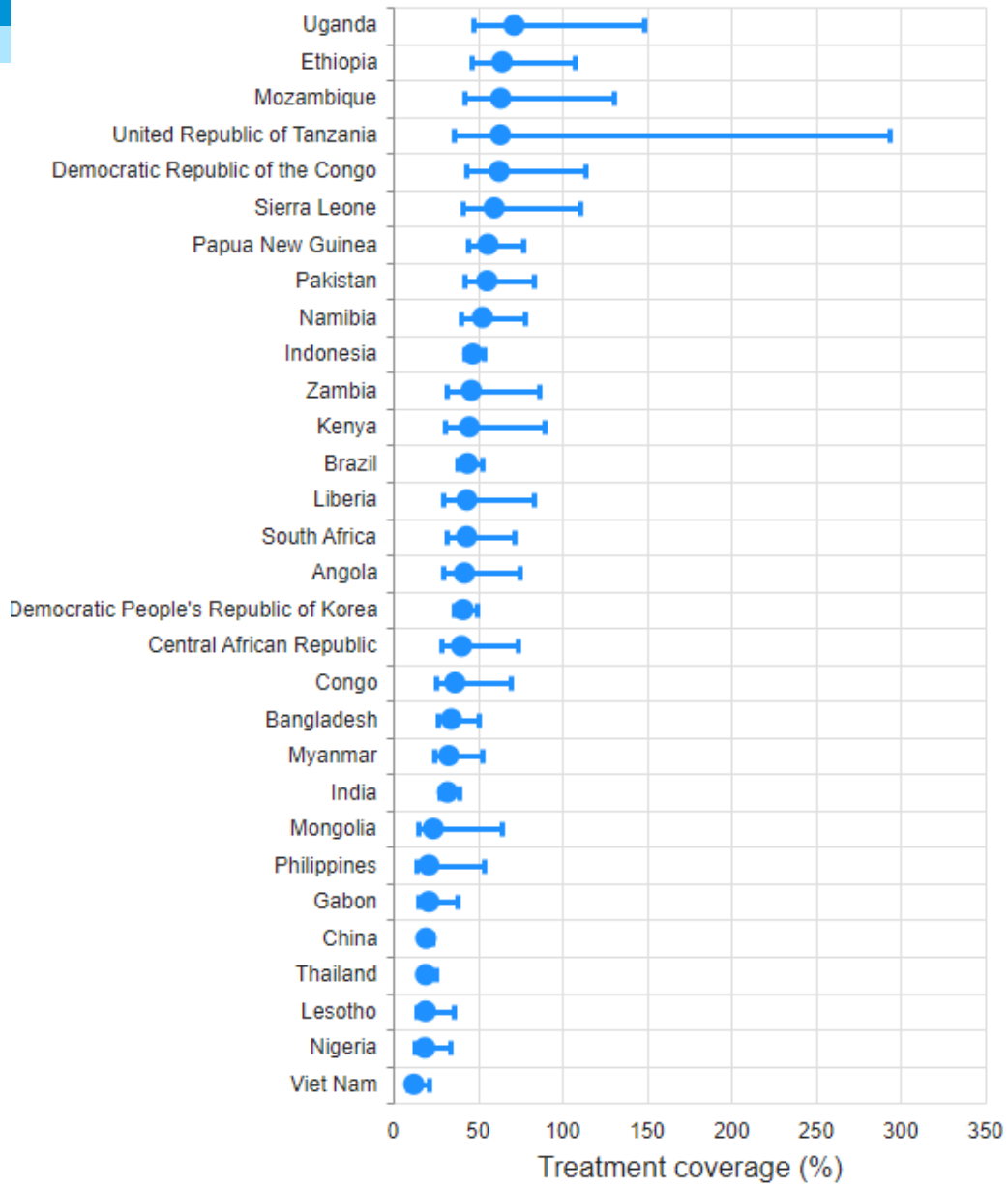
Estimated TB treatment coverage in children (0–14y), WHO regions, globally and 30 high TB burden countries (2021)



Global average: 38%



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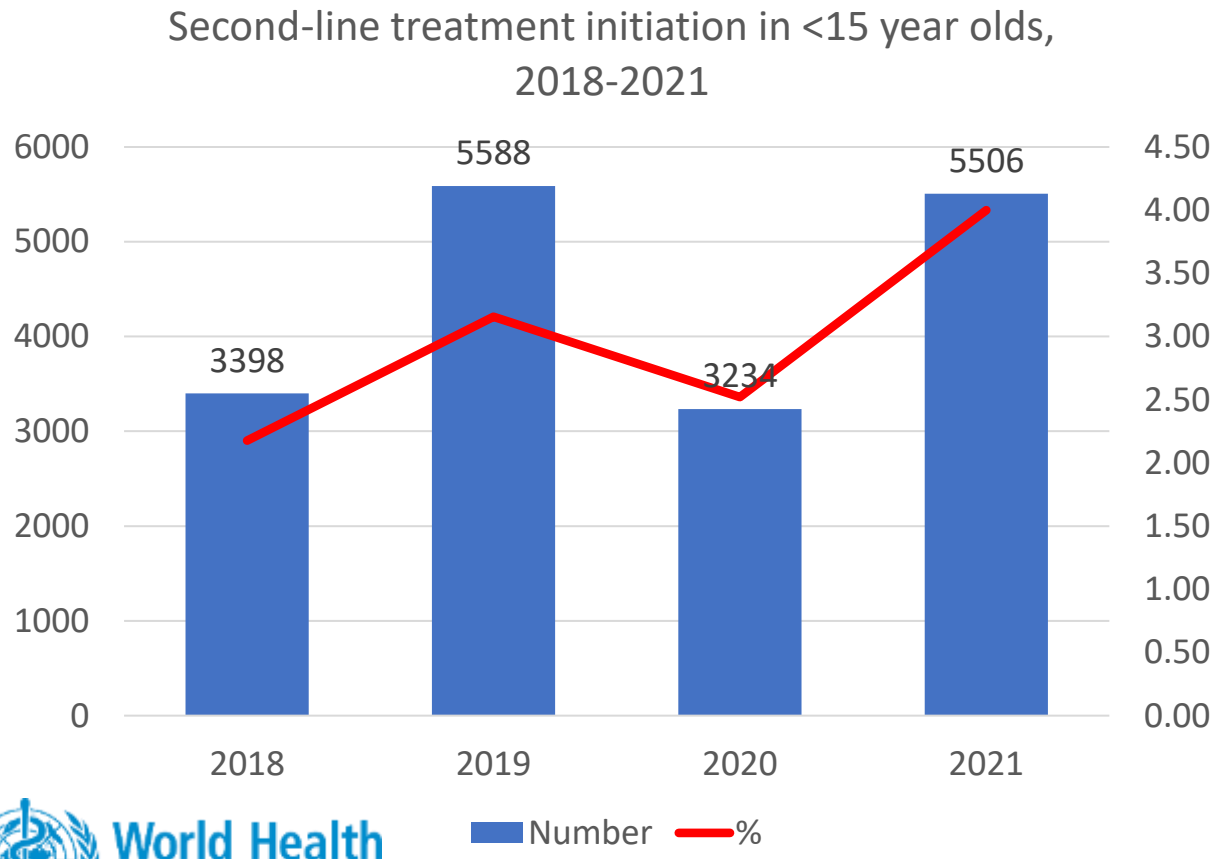
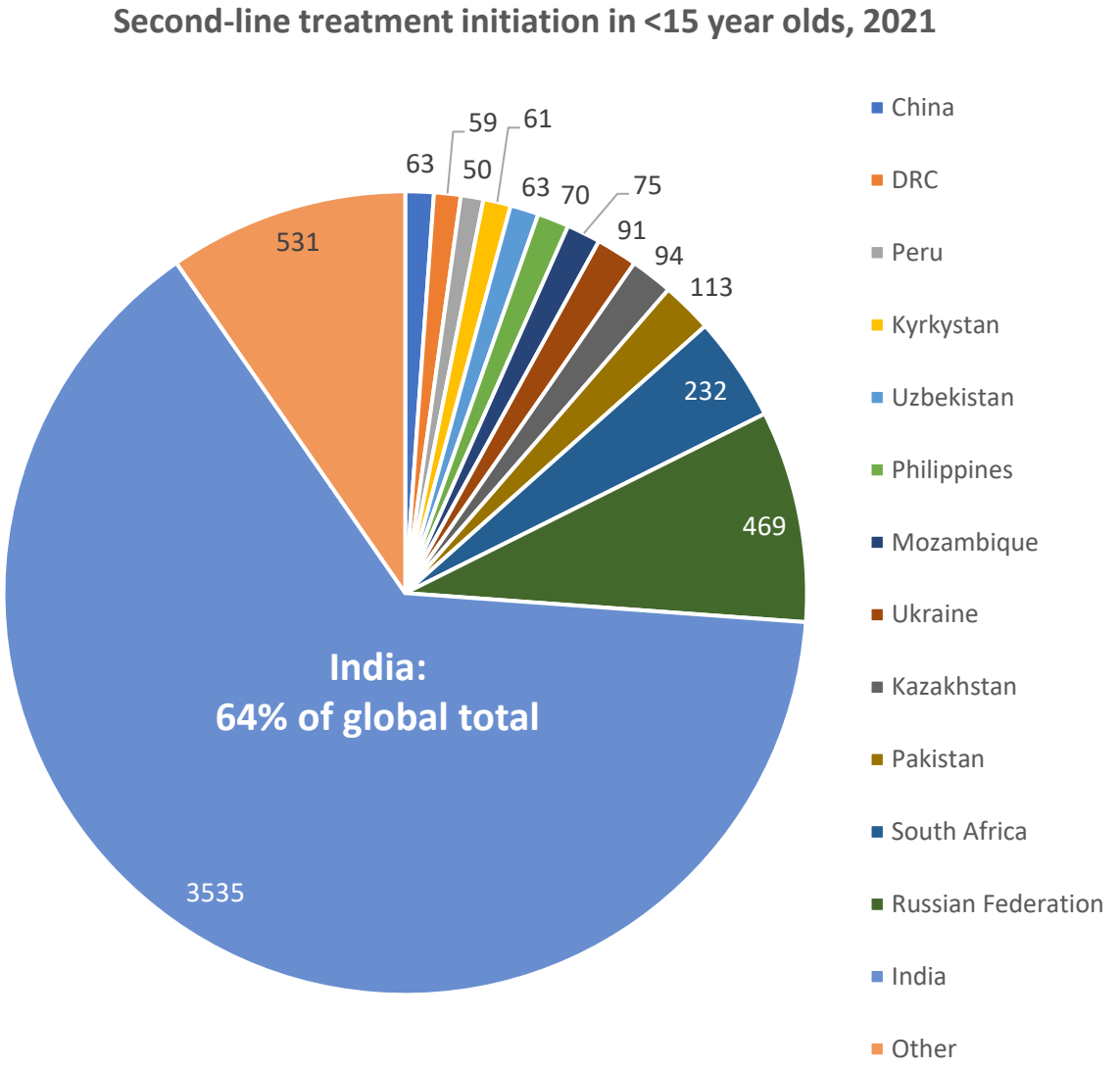
Treatment initiation in children with MDR/RR-TB

Global reporting on # of children <15 y initiated on second-line treatment for MDR/RR-TB since 2018





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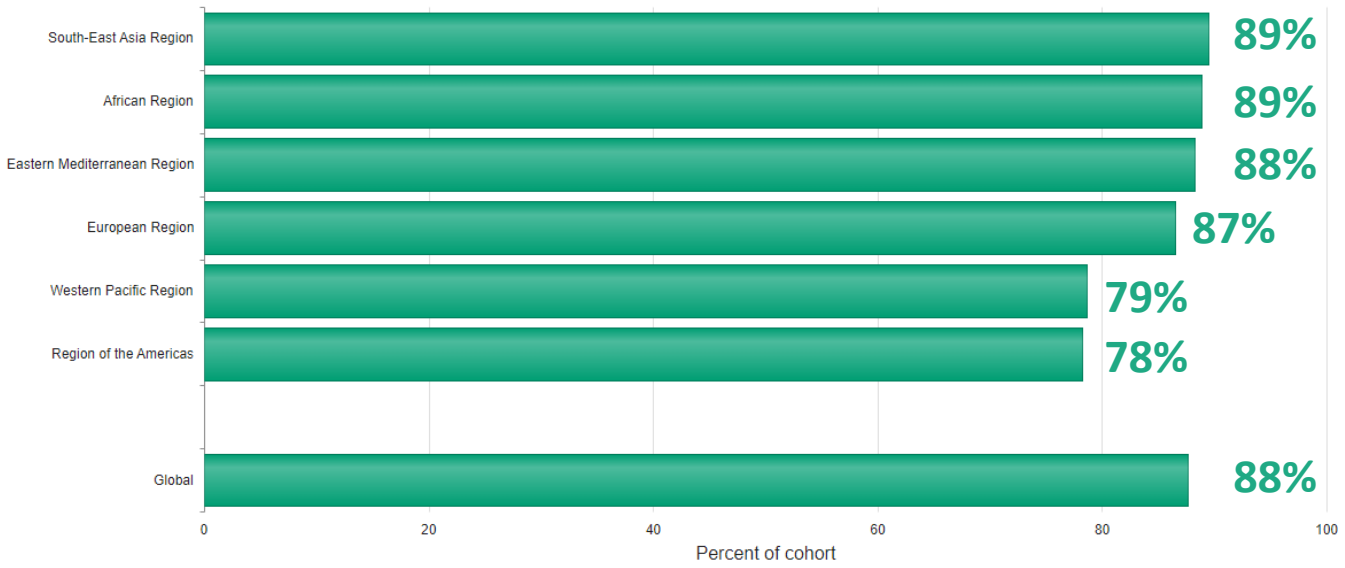
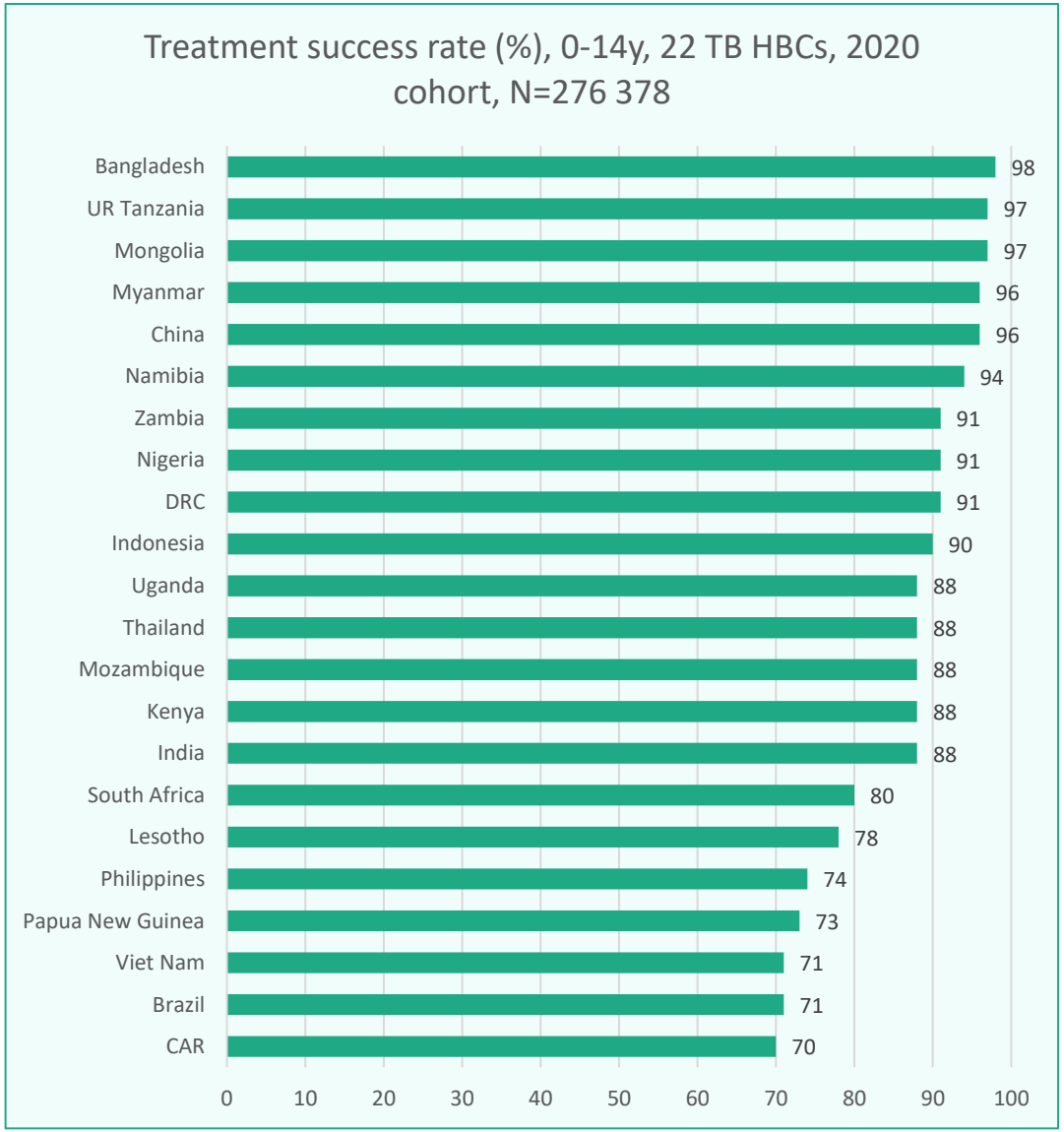
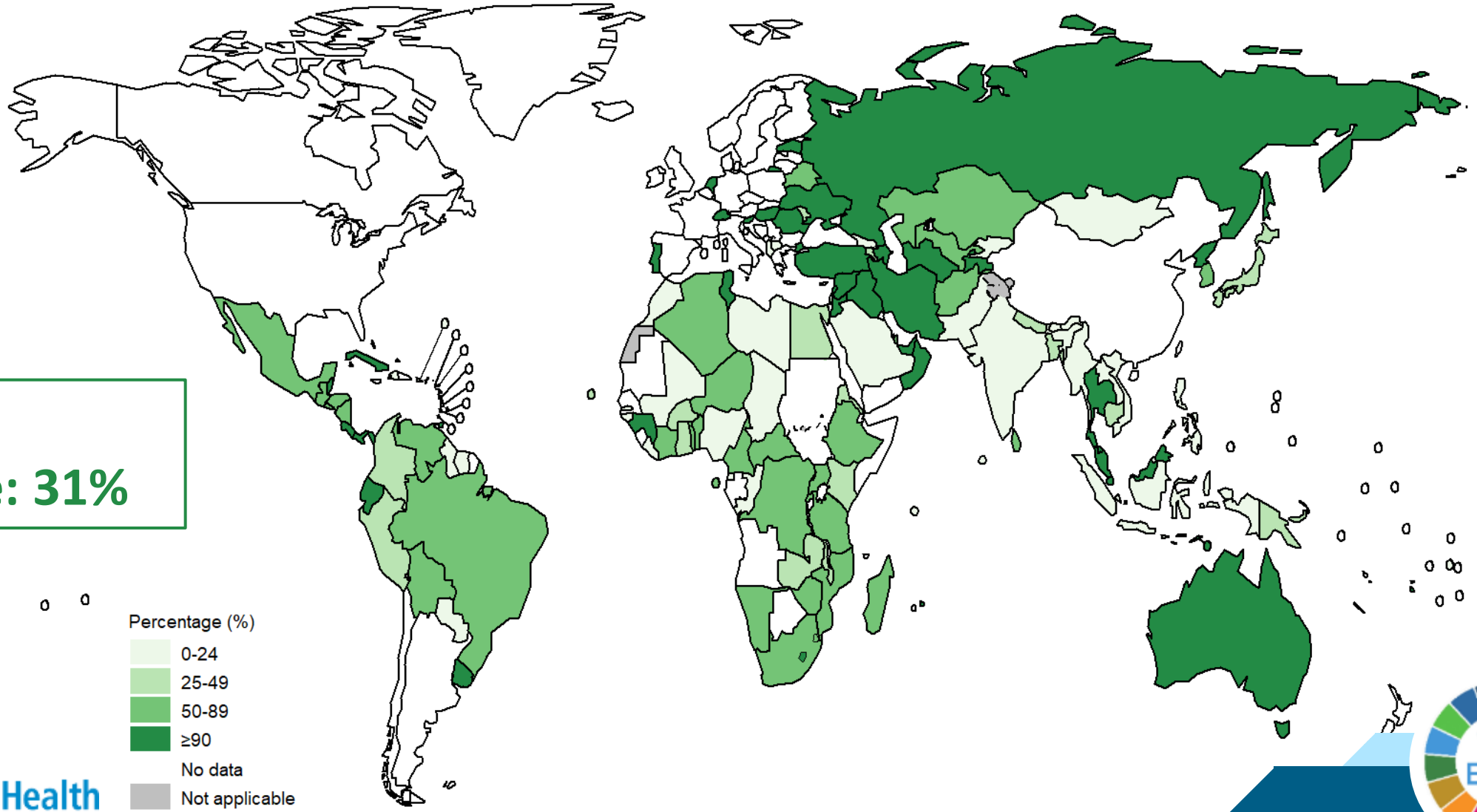
Treatment success rates in children 0-14y

- 130 (of 215) countries reported treatment success rate in children and young adolescents (0-14y) for the 2020 cohort
- 22 (of 30) TB HBCs reported (N=267 378 or 76% of total notifications in 0-14y in 2020)
- Overall: **87.7%** treatment success (range 70-98% in HBCs)





% of household contacts <5 y provided with TPT, 2021



Global average: 31%

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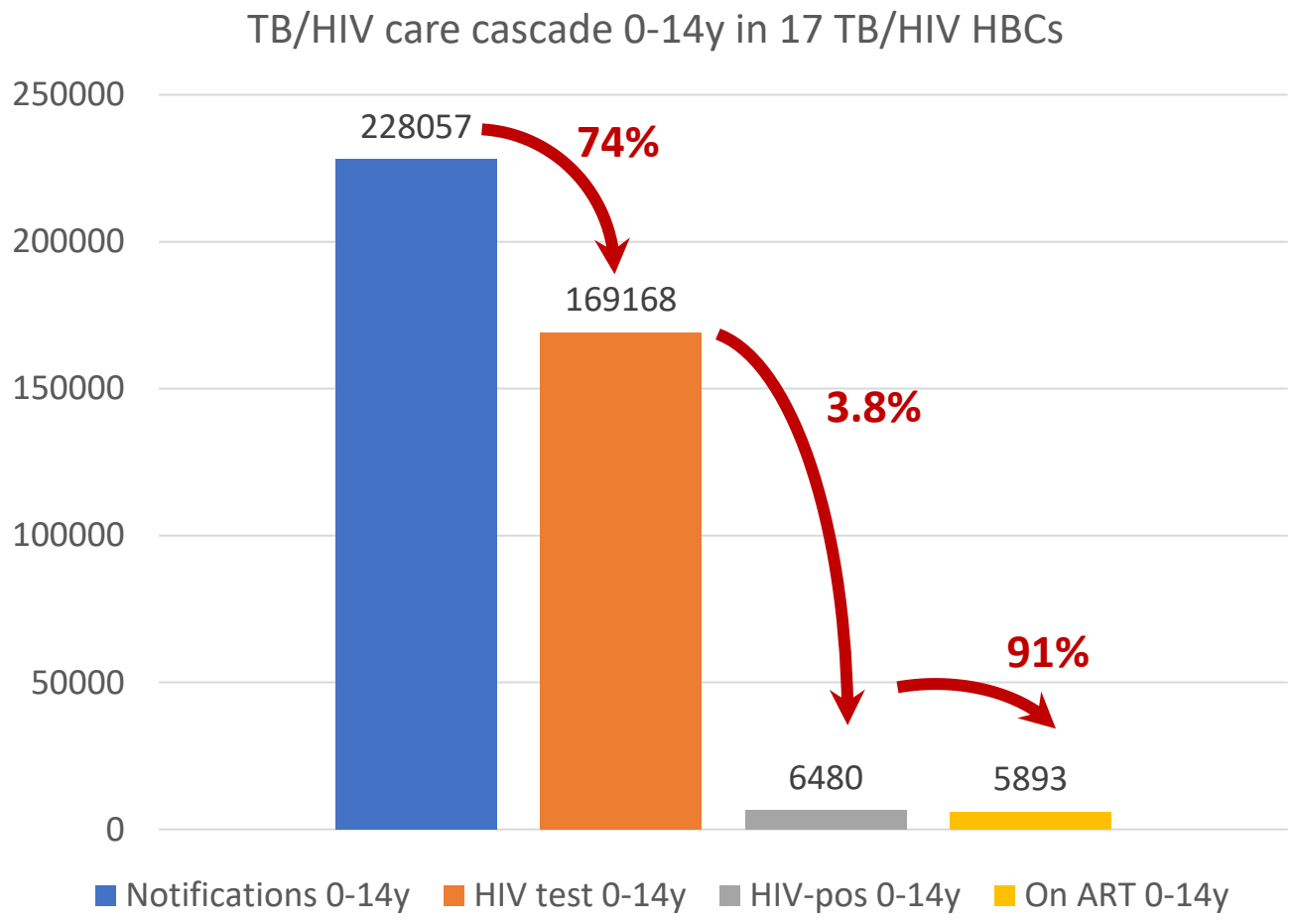
TB/HIV co-infection

- WHO requested data on TB/HIV in children/ young adolescents for the 1st time for the 2021 Global TB Report, in line with the commitments of the Rome Action Plan on Paediatric HIV & TB[1]
- 38 countries reported TB/HIV data in 0-14 years, including 17 TB/HIV HBCs, for 2021
  - 17 TB/HIV HBCs covered 98% of all testing
- Data reported:
  - # TB patients notified who have an HIV test result recorded
  - # TB patients tested for HIV who tested HIV-positive
  - # TB/HIV co-infected patients on ART



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[1] Paediatric HIV & TB: Rome Action Plan (website): 2020 (https://www.paediatrichivactionplan.org/rome-5-pediatric-hiv-tb-action-plan)

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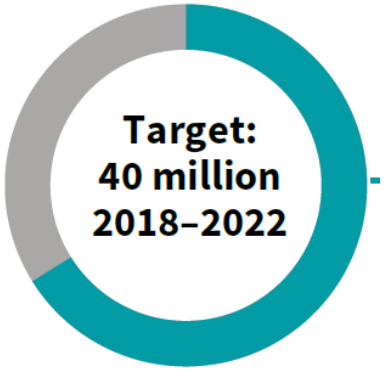
Progress against UNGA HLM targets, 2018-2021

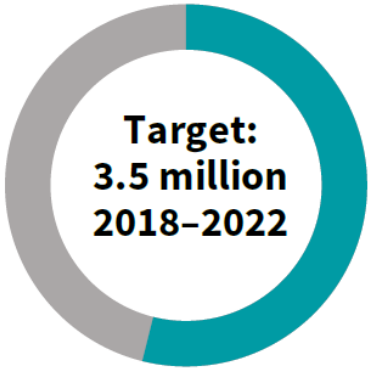
UNITED NATIONS
HIGH-LEVEL MEETING ON THE FIGHT TO END TUBERCULOSIS
26 SEPTEMBER 2018, UNHQ, NEW YORK

TB TREATMENT (ALL AGES)



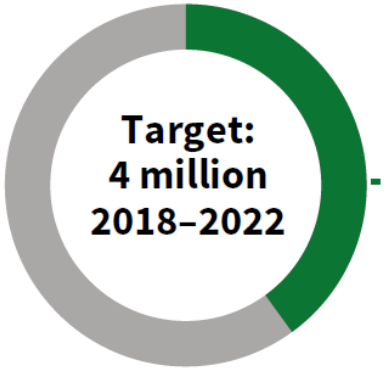
26.3 million (66%) treated in 2018–2021

TB TREATMENT (CHILDREN)



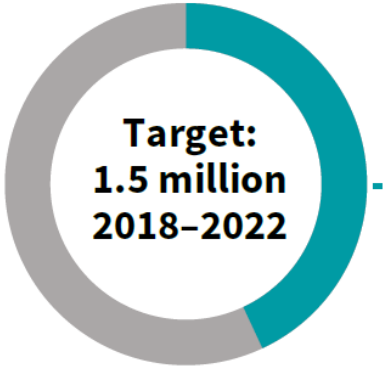
1.9 million (54%) treated in 2018–2021

HOUSEHOLD CONTACTS AGED <5 YEARS



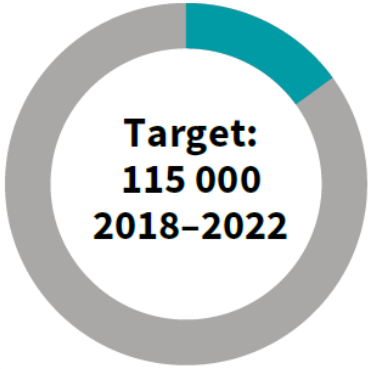
1.6 million (40%) treated in 2018–2021

MDR/RR-TB TREATMENT (ALL AGES)



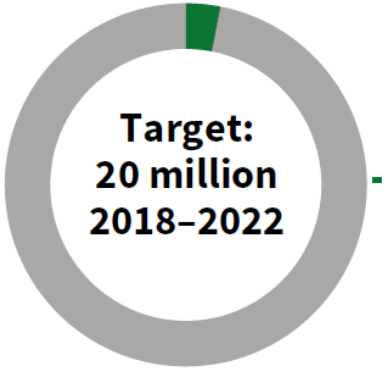
649 000 (43%) treated in 2018–2021

MDR/RR-TB TREATMENT (CHILDREN)



17 700 (15%) treated in 2018–2021

HOUSEHOLD CONTACTS AGED ≥5 YEARS



0.60 million (3.0%) treated in 2018–2021

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The main programmatic gaps in child and adolescent TB

The case detection gap

The prevention gap

In 2021, **over two thirds** of 1.3 million eligible contacts <5 years* did **NOT access TB preventive treatment (TPT)**

WHO recommends TB prevention including:

- Preventive therapy
- Infection control measures
- BCG vaccination

In the 158 countries for which data on BCG coverage are available, **120 reported coverage of at least 90% in 2017**

* No data collected on TPT for DR-TB

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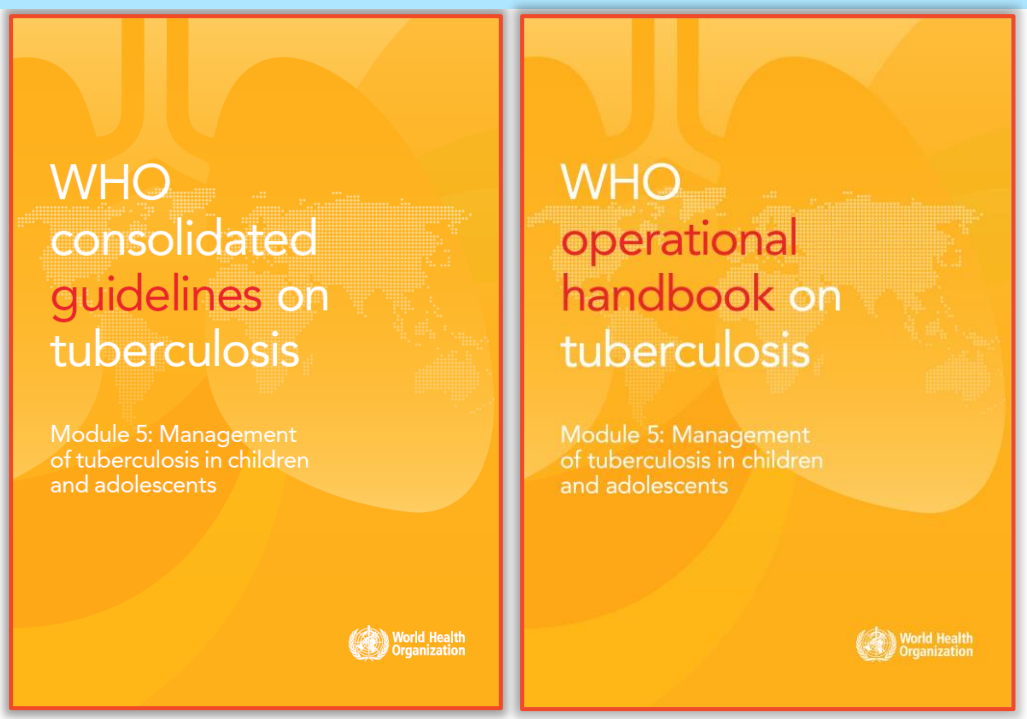
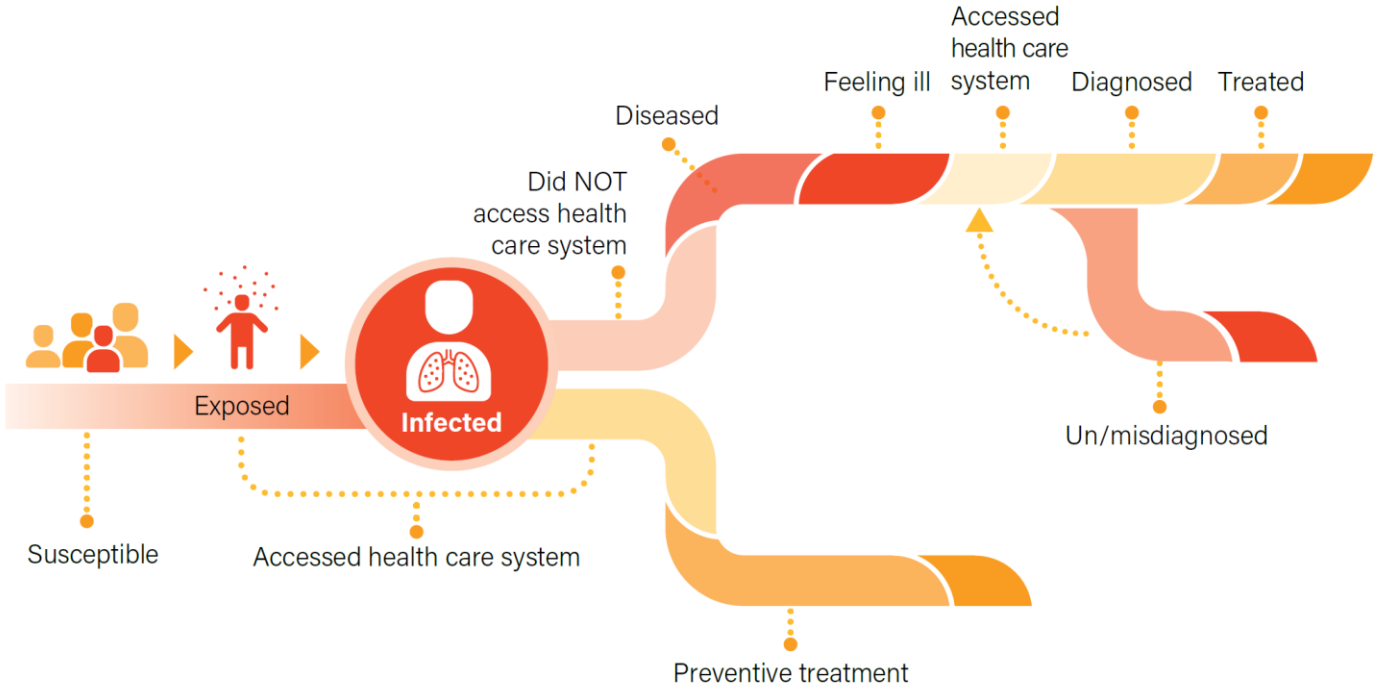
WHO consolidated guidelines and operational handbook on the management of TB in children and adolescents





Guidelines: https://www.who.int/publications/i/item/9789240046764
Handbook: https://www.who.int/publications/i/item/9789240046832
WHO TB Knowledge Sharing Platform: https://tbksp.org/

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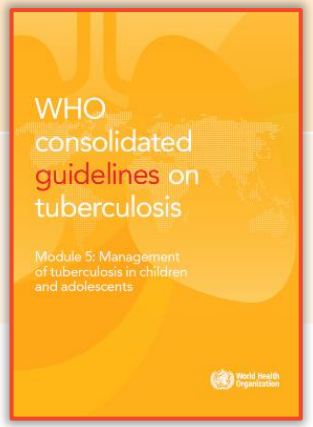
Summary of new recommendations

Recommendation on:	strength	certainty of evidence
Use of **Xpert Ultra** as initial diagnostic test for TB and detection of RIF resistance on **sputum, NPA, GA or stool**, rather than smear microscopy/culture and DST	**strong**	moderate (stool and GA); low (sputum); very low (NPA)
Use of **integrated treatment decision algorithms** to diagnose pulmonary TB in children with presumptive PTB	**INTERIM*** conditional	very low
Use of a **4-month treatment regimen (2HRZ(E)/2HR)** in children/adolescents (3 months to 16 years) with **non-severe TB**	**strong**	moderate
Use of a **6-month intensive regimen (6HRZEto)** as an **alternative option** to the 12-month regimen (2HRZE/10HR) for treatment of TB meningitis	conditional	very low
Use of **bedaquiline** in children <6 years and **delamanid** in children <3 years with MDR/RR-TB	conditional	very low
Use of **decentralized models of care and family-centred, integrated models of care** to deliver TB services in children and adolescents with signs and symptoms of TB and/or those exposed to TB	conditional	very low



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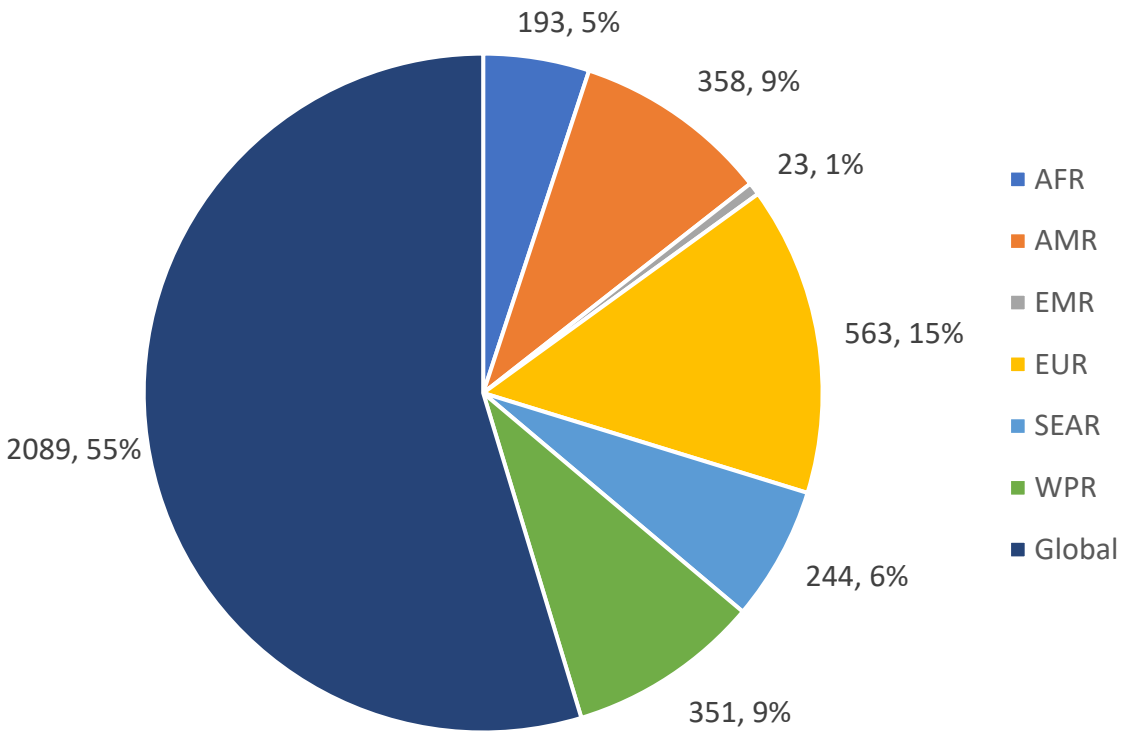
* Validity period 24 months

Dissemination and translation of the new guidelines and handbook

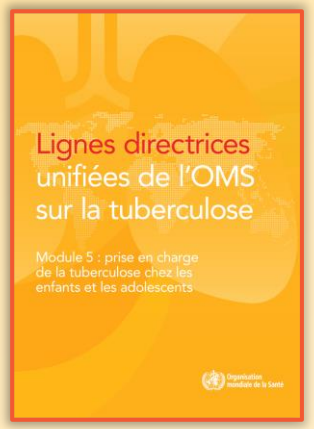
Number of participants in 28 dissemination events, March - November 2022 (N=4376)



Translations of module 5

French guidelines:
https://apps.who.int/iris/rest/bitstreams/1467749/retrieve
French handbook:
https://apps.who.int/iris/rest/bitstreams/1467749/retrieve

Russian guidelines and handbook:
Available from the WHO EURO Regional Office



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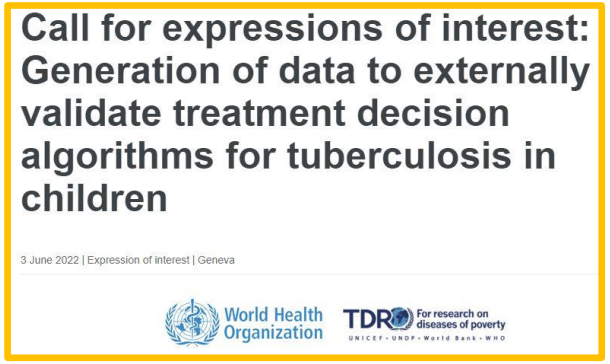
Regional consultation for the African region, 27-30 September

- Hosted by the Zambian government and NTP
- **21 high TB, TB/HIV and MDR-TB countries attended**
- ~140 participants (adolescent TB survivors, country programmes, civil society, TB-CAB, partners, funders, UNICEF WHO TB/HIV/RMNCAH)
- Launch of Zambian NSP and TB guidelines
- Agenda covering all new guidance, following **cascade of care**
- Country posters, panel discussions, interactive Q&A



Last 1.5 days:
Meeting & workshop on harmonization of research methods for external validation of treatment decision algorithms

- Following WHO/TDR call for expressions of interest to generate data (June 2022)
- Presentations on proposed studies
- Discussions on the reference standard, study populations, settings, design, implementation considerations, cost, data collection tools, data analysis etc.
- Development of a generic protocol and database

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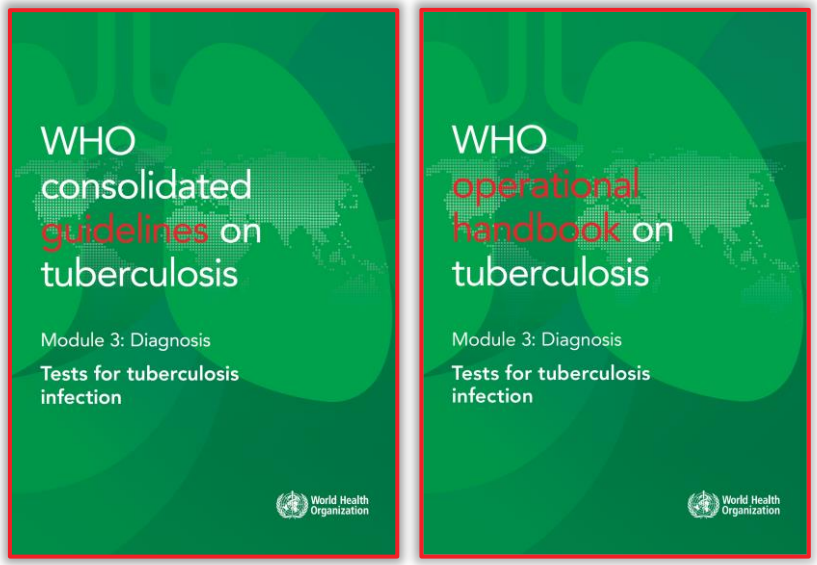
Related policy updates in 2022 – TB skin tests

- TBST class: skin tests for the detection of TB infection that use *Mtb* specific antigens (ESAT6 and CFP10)
- Technologies reviewed:
  - C-Tb (Serum Institute of India, India)
  - C-TST (Anhui Zhifei Longcom, China)
  - Diaskintest (Generium, Russian Federation)

Including in children and adolescents

Mycobacterium tuberculosis antigen-based skin tests (TBSTs) may be used to test for TB infection.
Conditional recommendation for the intervention, very low certainty of the evidence

- Key findings:
  - **TBST were found to be accurate for the detection of TB infection**
  - **TBST safety profile appeared similar to TST**
  - **TBST were found to be cost-effective**
  - **TBST were found to be acceptable and feasible**



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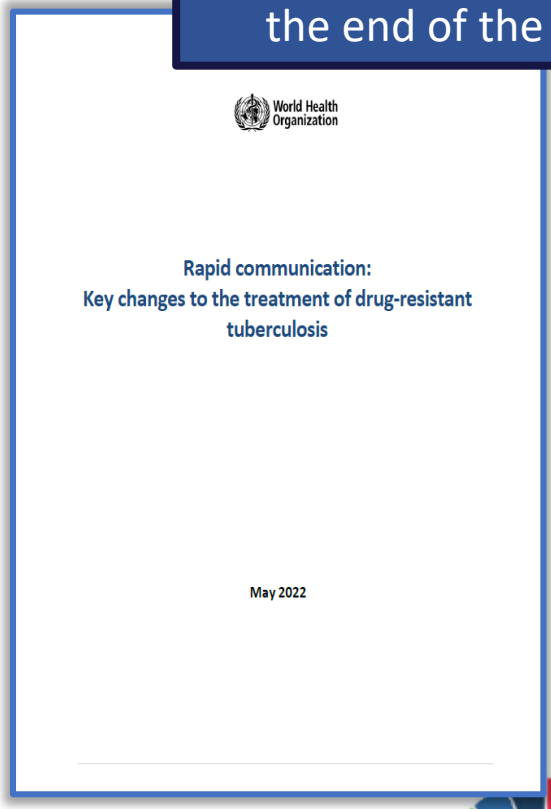
Related policy updates in 2022 – DR-TB treatment

- **6-month BPaLM** (bedaquiline, pretomanid, linezolid (600mg), moxifloxacin) may be used programmatically (in adolescents ≥15y)
  - BPaL if fluoroquinolone resistant

- **9-month, all-oral, bedaquiline-containing regimens** are preferred over longer (>18 months) regimens in adults and children with MDR/RR-TB
  - 2 months of **linezolid** as alternative to 4 months of **ethionamide**
  - 4-6 Bdq [6]-Lfx [Mfx]-Lzd [2]-E-Z-H^h-Cfz / 5 Lfx [Mfx]-Cfz-Z-E *or*
  - 4-6 Bdq [6]-Lfx [Mfx]-Eto-E-Z-H^h-Cfz / 5 Lfx [Mfx]-Cfz-Z-E

Updated DR-TB guidelines and operational handbook expected by the end of the year



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https://apps.who.int/iris/rest/bitstreams/1420701/retrieve

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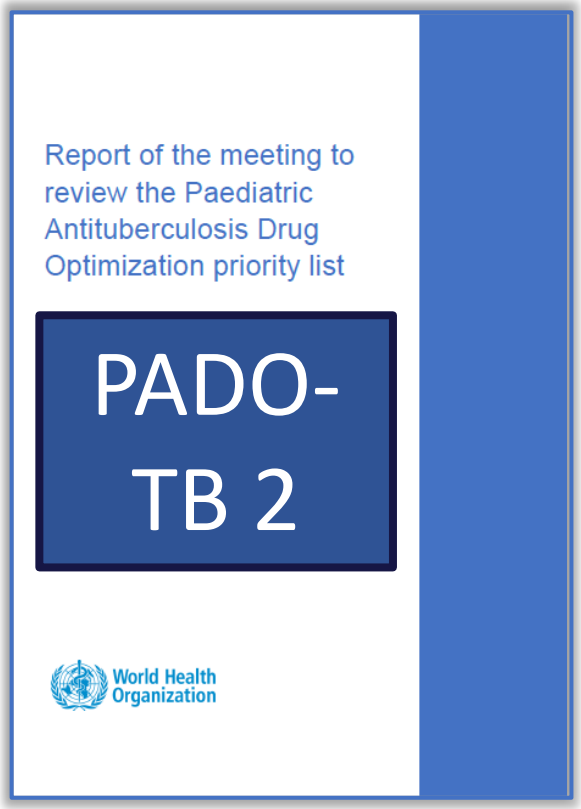
Priorities for TB in children and adolescents: 2023



Development of E-courses on the management of TB in children & adolescents

Target audience:

1. Programmatic
2. HCWs at PHC level

Further dissemination of the new guidance

Country support for programme reviews, updated NSPs, funding applications, adoption of new guidance in national guidelines

Implementation of generic protocol and follow-up on data generation on treatment decision algorithms

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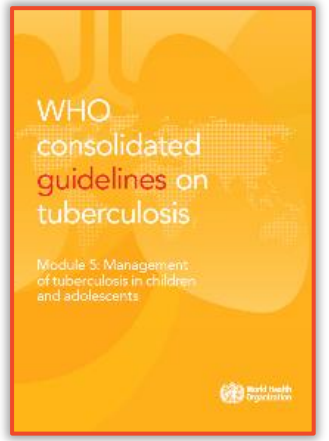
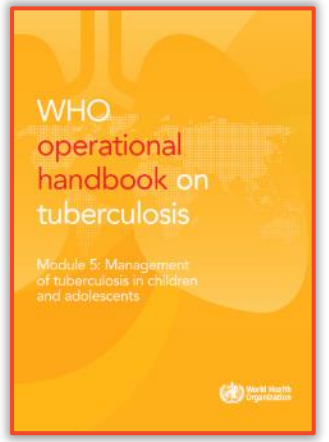
Interventions on TB screening, prevention, diagnosis and care for children and adolescents affected by TB (1)

- Updating of national guidelines/tools in line with new WHO recommendations
- Active community-based contact investigation approaches with linkage to TPT and diagnostic evaluation
- Implementation of shorter TPT regimens for relevant age groups (3HR, 3HP, 1HP)
- TB screening in health care facilities, including in outpatient settings, nutrition, HIV and other relevant child health clinics
- Use of alternative, less invasive specimens for Xpert MTB/RIF and Ultra (e.g. stool)
- Implementation of treatment decision algorithms which include rapid molecular tests and chest radiography, where available
- Studies to validate the new treatment decision algorithms in the handbook (master protocol in development)





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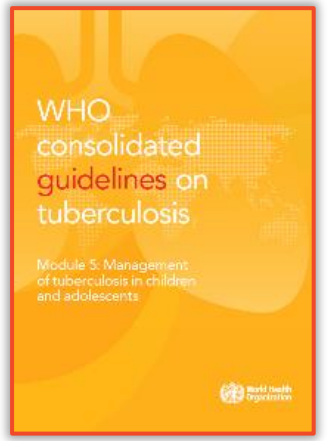
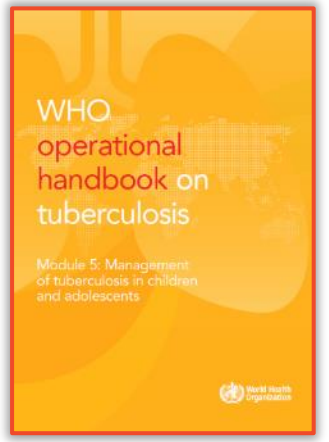
Interventions on TB screening, prevention, diagnosis and care for children and adolescents affected by TB (2)

- Increasing access to digital chest radiography and capacity building for paediatric CXR interpretation and assessment of severity of disease (to inform treatment duration)
- Capacity building on assessing severity to implement 4-month regimen for non-severe TB
- Implementation of the short intensive regimen for TB meningitis (6HRZEto)
- All oral regimens for treatment of drug resistant TB in children of all ages using bedaquiline and delamanid
- Use of child-friendly formulations for TPT, first- and second-line medicines (GDF)
- TB-HIV care including TPT
- Integrated and decentralized TB prevention and care for children and adolescents
- Capacity building, followed by regular mentoring and supportive supervision
- Use of the OneHealth Tool for budgeting





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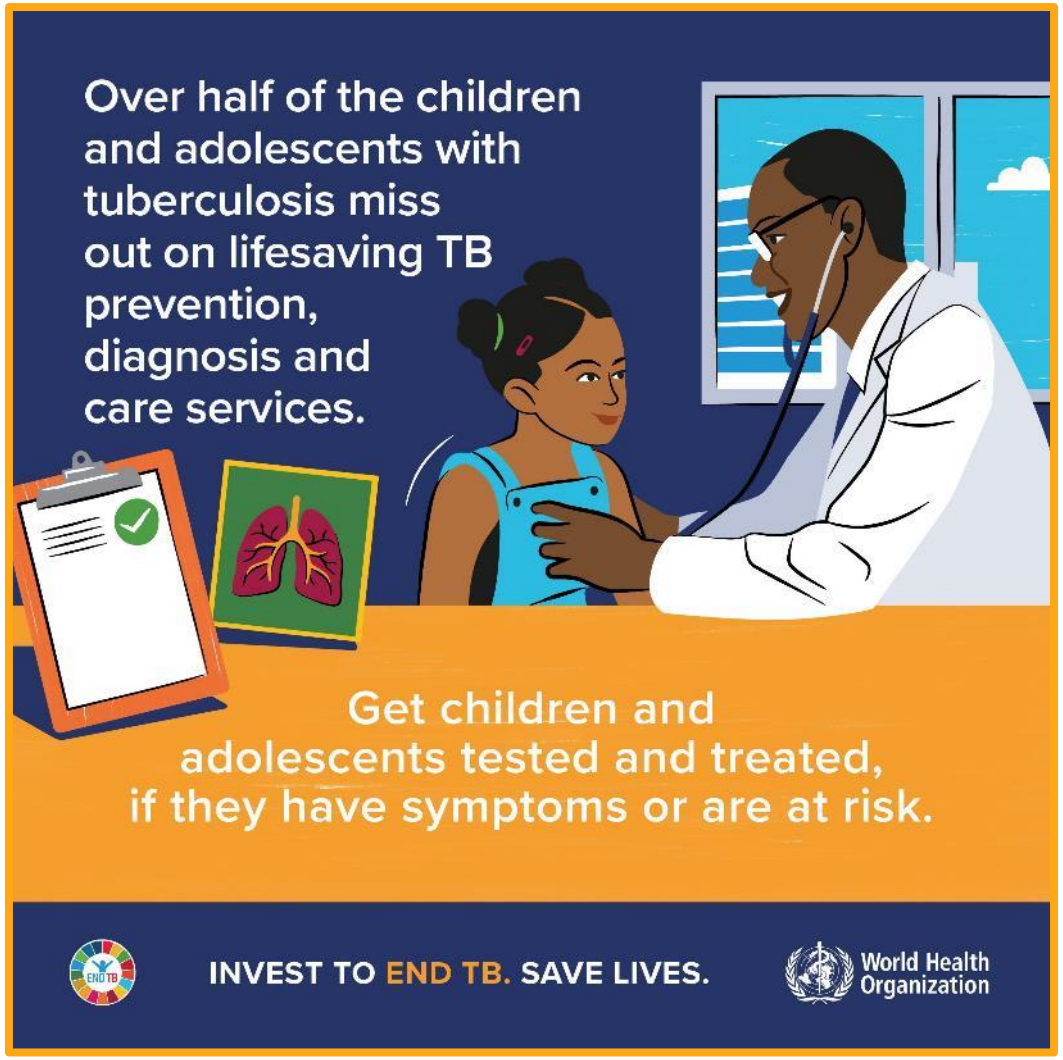
Acknowledgements and thanks

- Slides prepared by Sabine Verkuijl, Kerri Viney, Tiziana Masini and Annemieke Brands
- Tereza Kasaeva, Farai Mavhunga and other colleagues from the WHO Global TB Programme
- All experts who contributed to the development of the guidelines and handbook, including the GDG, ERGs, technical partners, funding partners
- Members of the Child and Adolescent TB Working Group



Thank you for your attention!

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