WHO updates

Annemieke Brands, Sabine Verkuijl, Kerri Viney & Tiziana Masini, WHO GTB

Annual meeting of the Child and Adolescent TB Working Group
Hyatt Regency Paris Etoile, Paris, France
14 November 2023
TB incidence and mortality in children and adolescents, 2022

10.6 million
TB among all ages in 2022

1.3 million
TB deaths in 2022

1.25 million
children (0–14 years) developed TB in 2022 (12% of all TB)

214 000
TB deaths in 2022 (16% of all TB deaths)

727 000 adolescents
(10–19 year-olds) developed TB in 2012 (Snow et al, 2018)

47%
<5 year olds

Among deaths in HIV-negative children and young adolescents 0–14 years,
76% were in children <5 years

96% of deaths occurred in children who did not access TB treatment
(Dodd et al, 2017)

31 000
(14%) TB deaths in the 0–14 year age group were among children living with HIV
Trends in global TB notifications <15 years

Trends in case detection in children and young adolescents (<15y), 2013-2022

Notified 0-14y
% 0-14 of total TB notified

COVID-19 impact
% of people with a new / relapse episode of TB <15 years, 2022

Global average: 8.2%
TB treatment coverage in <15 years

Global average: 49%
Treatment initiation in children with MDR/RR-TB

Second-line treatment initiation in <15 year olds, 2018-2022

- 2018: 3399
- 2019: 5575
- 2020: 3235
- 2021: 5510
- 2022: 3906

Treatment coverage: MDR/RR-TB in children and young adolescents, average for 2018-2022 (out of an estimated 30 000 per year)

- Not treated: 14%
- Started on treatment: 86%
Treatment success rates <15 years

Treatment success rate (%), 0-14y, 20 TB HBCs, 2021 cohort, N=283 392

Global average: 91%

*Data were reported by 136 countries on outcomes for 289,535 children aged 0-14 years, equivalent to 79% of the 445,648 cases among children aged 0-14 years that were notified in 2021.*
% of household contacts (all ages) provided with TPT, 2022

Global average:
Contacts <5 years: 37%
Contacts ≥5 years: 11%
Number of people provided with TPT, 2015-2022

Slowest progress in contacts <5 years

Sustained progress in PLHIV, but no age-disaggregated data

4-fold increase in ages ≥5 yrs
TB/HIV co-infection

TB/HIV care cascade 0-14y in 20 TB/HIV HBCs

- Notifications 0-14y: 350,000
- HIV test 0-14y: 250,000 (67%)
- HIV-pos 0-14y: 11,000 (4.4%)
- On ART 0-14y: 9,100 (86%)
Progress against UNGA HLM targets, 2018-2022

Treatment for DS- and DR-TB

TB treatment (all ages)
- Target: 40 million (2018-2022)
- 34 million (84%) treated in 2018-2022

MDR/RR-TB treatment (all ages)
- Target: 1.5 million (2018-2022)
- 825 000 (55%) treated in 2018-2022

TB treatment (children)
- Target: 3.5 million (2018-2022)
- 2.5 million (71%) treated in 2018-2022

MDR/RR-TB treatment (children)
- Target: 115 000 (2018-2022)
- 21 600 (19%) treated in 2018-2022

TB Preventive Treatment

All ages
- Target: 30 million (2018-2022)
- 16 million (52%) treated in 2018-2022

People living with HIV
- Target: 8 million (2018-2022)
- 11 million (>100%) treated in 2018-2022

Household contacts aged <5 years
- Target: 4 million (2018-2022)
- 2.2 million (55%) treated in 2018-2022

Household contacts aged ≥5 years
- Target: 20 million (2018-2022)
- 2 million (10%) treated in 2018-2022
Remaining programmatic gaps

% of missing persons with TB in different age groups (2022)

- 0-4 years: 58% reported, 42% missing
- 5-14 years: 45% reported, 55% missing
- All <15 years: 51% reported, 49% missing
- All >15 years: 30% reported, 70% missing

Access to TPT in child contacts <5 years

- 63% No TPT
- 37% Receiving TPT
Summary of data published in IJTLD Open

**EDITORIAL**

Global reporting on TB in children and adolescents: how far have we come and what remains to be done?

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In September 2023, the second United Nations High-Level Meeting on the Fight Against Tuberculosis (UN HLM) provided an important opportunity to reflect on progress towards ending TB in children and adolescents, based on the most recent data reported to the WHO. Following a ‘Call to action for childhood TB’ in 2011, the availability of surveillance data and estimates of the burden of TB disease in children has improved and expanded (Figure 1).

## 2023 HLM targets

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Global target</th>
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| TB treatment coverage | 90% by 2027  
~45 million people globally, including 4.5 million children and 1.5 million people with drug-resistant TB |
| TPT coverage | 90% by 2027  
~45 million people globally, including 30 million household contacts, including children and 15 million people living with HIV |
| Coverage of health and social benefits package for people with TB | 100% by 2027 |
| Scale-up of comprehensive efforts to close gaps in care of children with or at risk of TB – equitable access to screening, prevention, testing and treatment services as part of comprehensive primary health care |
Updated WHO guidance

- Updates to Box 5.3 on eligibility criteria for the 4-month regimen for non-severe TB (Module 5 operational handbook)

- DR-TB guidelines and Operational Handbook, December 2022
  - BPaLM/BPaL for ages ≥ 14 years
  - Linezolid variation for 9-month oral regimen
  - Children with clinical diagnosis eligible for the 9-month regimen
  - Updated dosing table covering 3kg->70kg in DR-TB operational handbook

- Upcoming Guideline Development Group on TPT
  - Data from TB-CHAMP and V-Quin (DR-TB TPT)
  - Separate advisory group on dosing, including for 3HP < 2 years

https://iris.who.int/bitstream/handle/10665/370100/9789240074286-eng.pdf?sequence=1
https://iris.who.int/bitstream/handle/10665/370099/9789240074309-eng.pdf?sequence=1
E-course for HCWs

#END TB Channel
E-LEARNING COURSE ON
TB IN CHILDREN AND
ADOLESCENTS FOR
HEALTHCARE WORKERS

TB is a preventable and curable disease, yet it is a common cause of sickness and death in children and adolescents. Every year, more than 1 million children and young adolescents fall ill with TB. Young children are at increased risk of severe disease and death; adolescents are at increased risk of disease that can be readily transmitted. Important gaps remain in finding children and adolescents with TB and in providing TB treatment and TB preventive treatment (TPT) to children and adolescents.

This e-course gives practical guidance on key elements of the management of TB in children and adolescents. The role of health care workers in preventing, identifying and managing TB in children and adolescents is critical.

Giving soon
Language: English
# Intermediate (intermediaire), Tuberculosis

https://openwho.org/courses/TB-child-adolescent-EN
Register first on openwho.org before enrolling for the course

A second course for a programmatic audience is in preparation

BIG thanks to the Union team!
Work on TB and pregnancy

• WHO co-convened meeting: *A primer on TB and pregnancy: laying the groundwork for consensus* with SMART4TB and the IMPAACT network (Washington DC, October 2023)
  • Start of a process towards consensus on earlier and optimal inclusion of pregnant women in TB drug and vaccine research

• Inclusion of detail on maternal and infant TB in the 2023 Roadmap
  • “effectively addressing TB in infants and young children cannot be separated from effectively addressing maternal TB”

https://apps.who.int/iris/bitstream/handle/10665/365953/9789240057562-eng.pdf
Updated WHO Essential Medicines List for children

- Bedaquiline and delamanid listed without age restriction
- Ethionamide also listed in core list (to reflect role in DS-TBM)
- Removal of oral liquid formulations of E, INH, Z (dispersible tablets now available and are the preferred option)
- Removal of a powder for oral liquid for linezolid (dispersible tablets now available and are preferred option)
Objective: To identify TB medicines and formulations to be prioritized for research and development for the prevention and treatment of TB in children

Enable alignment between researchers, funders, procurers, market coordination entities, innovators, generic manufacturers, product development partnerships and regulators

Ensure that the unique needs of children are considered and effectively addressed upfront
# PAediatric Drug Optimization of TB

## PADO PRIORITY LIST (short-term priorities)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Status and Notes</th>
</tr>
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<tbody>
<tr>
<td>Rifapentine 150 mg</td>
<td>Development ongoing. An FDC for TPT was not considered a priority for development at the moment.</td>
</tr>
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<td>scored dt</td>
<td></td>
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<tr>
<td>Rifampicin 100 mg</td>
<td>Addition on a note on monitoring the longer-term need/feasibility of an FDC.</td>
</tr>
<tr>
<td>scored dt</td>
<td></td>
</tr>
<tr>
<td>Pretomanid</td>
<td>Flag that it remains a priority for development for children even though development timeline is on the longer term.</td>
</tr>
<tr>
<td>Moxifloxacin 100 mg</td>
<td>Palatability needs improvement (ongoing).</td>
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<td>dt</td>
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</tbody>
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## PADO WATCH LIST (longer-term priorities)

<table>
<thead>
<tr>
<th>Product</th>
<th>Notes</th>
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<tbody>
<tr>
<td>All compounds in Phase IIa/b as of</td>
<td>Special flag tbc for compounds that are more advanced for development, ie: delpazolid,</td>
</tr>
<tr>
<td>October 2023</td>
<td>sutezolid, GSK-656, OPC-167832, BTZ-043, TBI-223</td>
</tr>
<tr>
<td>Long acting</td>
<td>New technologies</td>
</tr>
<tr>
<td>Oral film rifapentine</td>
<td>New technologies</td>
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Technical Advisory Group on dosing

- Aims to complement work done by WHO Guideline Development Groups (WHO recommendations) to inform dosing updates in WHO Operational Handbooks in a transparent, evidence-based, structured manner.

- 20 experts from geographically diverse settings and relevant technical expertise: clinical pharmacology, pharmacometrics, clinical research, programmatic management, civil society.

- Standing group – members appointed for 3 years (and eligible for reappointment).

First TAG meeting
Jan/Feb 2024 to review new evidence on dosing of TB Preventive Treatment regimens
Acknowledgements

Tereza Kasaeva, Farai Mavhunga, Katherine Floyd & other colleagues from WHO GTB

Core team members of the child and adolescent TB working group

All members of the child and adolescent TB working group

Thank you for your attention!