Annex 2

Country profiles
FOR 30 HIGH TB BURDEN COUNTRIES

20 high TB burden countries based on absolute number of incident cases

10 high TB burden countries based on severity of disease burden (incidence per capita)
Angola

**ESTIMATES OF TB BURDEN, † 2018**

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>109 (71–156) 355 (230–507)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>11 (6.8–15) 34 (22–49)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>3.9 (1.7–7.1) 15 (5.4–23)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>19 (11–28) 60 (56–91)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>3.7 (2.4–5.3) 12 (7.9–17)</td>
</tr>
</tbody>
</table>

**ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018**

- New cases: 2.4% (1.1–4.2)
- Previously treated cases: 15% (11–19)

**TB CASE NOTIFICATIONS, 2018**

- Total new and relapse: 66 189
  - % tested with rapid diagnostics at time of diagnosis
  - % with known HIV status: 68%
  - % pulmonary: 94%
  - % bacteriologically confirmed: 56%
  - % children aged 0–14 years
  - % women
  - % men
- Total cases notified: 70 362

**UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION**

- TB treatment coverage (notified/estimated incidence), 2018: 61% (42–94)
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 21% (11–33)

**TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018**

<table>
<thead>
<tr>
<th>NUMBER (%)</th>
<th>% on antiretroviral therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with known HIV-status who are HIV-positive</td>
<td>6 137 10%</td>
</tr>
<tr>
<td>- on antiretroviral therapy</td>
<td>2 101 49%</td>
</tr>
</tbody>
</table>

**DRUG-RESISTANT TB CARE, 2018**

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: <1%
  - Previously treated cases: 9%
- Patients started on treatment:
  - MDR/RR-TB: 649, XDR-TB: 0
- MDR/RR-TB cases tested for resistance to second-line drugs: 0

**TREATMENT SUCCESS RATE AND COHORT SIZE**

- New and relapse cases registered in 2017: 57 877
- Previously treated cases, excluding relapse, registered in 2017: 25%
- HIV-positive TB cases registered in 2017: 0
- MDR/RR-TB cases started on second-line treatment in 2016: 4% 175
- XDR-TB cases started on second-line treatment in 2016: 0

**TB PREVENTIVE TREATMENT, 2018**

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 42%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment

**TB FINANCING, 2019**

- National TB budget (US$ millions): 67
- Funding source: 21% domestic, 10% international, 70% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

† Ranges represent uncertainty intervals.

+ MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

* Calculated for pulmonary cases only.

‡ Includes cases with unknown previous TB treatment history.

§ Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
Data for all countries and years can be downloaded from www.who.int/tb/data

INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE

- HIV prevalence (% of population aged 15–49 years)
- Diabetes prevalence (% of population aged ≥18 years) (females, males)
- Alcohol use disorders, 12 month prevalence (% of population aged ≥15 years) (females, males)
- Smoking prevalence (% of population aged ≥15 years) (females, males)
- Health expenditure per capita, PPPb (current international $)
- Greater than 10% of total household expenditure or income on health (% of population)
- UHC index of essential service coverageb (based on 16 tracer indicators including TB treatment)
- Population living below the international poverty line (% of population)
- Population covered by social protection floors/systems (% of population)
- Prevalence of undernourishment (% of population)
- Access to clean fuels and technologies for cooking (% of population)
- GDP per capita, PPPb (constant 2011 international $)
- GINI index (0 = perfect equality, 100 = perfect inequality)
- Population living in slums (% of urban population)

NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018

- Smoking
- Diabetes
- HIV
- Harmful use of alcohol
- Undernourishment

Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources. GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage.
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

† Ranges represent uncertainty intervals.

‡ MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

§ Calculated for pulmonary cases only.

∥ Includes cases with unknown previous TB treatment history.

¶ Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

Data for all countries and years can be downloaded from www.who.int/tb/data.
**NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018**

- HIV
- Harmful use of alcohol
- Diabetes
- Smoking
- Undernourishment

**INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE**

- **HIV prevalence** (% of population aged 15–49 years)
- **Diabetes prevalence** (% of population aged ≥21 years)
- **Alcohol use disorders, 12 month prevalence** (% of population aged ≥15 years)
- **Smoking prevalence** (% of population aged ≥15 years)
- **Health expenditure per capita, PPPb** (current international $)
- **Greater than 10% of total household expenditure or income on health** (% of population)
- **UHC index of essential service coverageb** (based on 16 tracer indicators including TB treatment)
- **Population covered by social protection floors/systems** (% of population)
- **Prevalence of undernourishment** (% of population)
- **Access to clean fuels and technologies for cooking** (% of population)
- **GDP per capita, PPPb** (constant 2011 international $)
- **GINI index** (0 = perfect equality, 100 = perfect inequality)
- **Population living in slums** (% of urban population)

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*a Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

*b GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

Data for all countries and years can be downloaded from www.who.int/tb/data
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

- Ranges represent uncertainty intervals.
- MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
- Calculated for pulmonary cases only.
- Includes cases with unknown previous TB treatment history.
- Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

Data for all countries and years can be downloaded from www.who.int/tb/data
Data for all countries and years can be downloaded from www.who.int/tb/data

### Indicators in the Sustainable Development Goals Associated with TB Incidence

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Year Range</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes prevalence</td>
<td>(% of population aged ≥18 years)</td>
<td>2000–2017</td>
<td>SDG indicators database, The World Bank, World Health Organization</td>
</tr>
<tr>
<td>Alcohol use disorders, 12 month prevalence</td>
<td>(% of population aged ≥15 years)</td>
<td>2000–2017</td>
<td>SDG indicators database, The World Bank, World Health Organization</td>
</tr>
<tr>
<td>Smoking prevalence</td>
<td>(% of population aged ≥15 years)</td>
<td>2000–2017</td>
<td>SDG indicators database, The World Bank, World Health Organization</td>
</tr>
<tr>
<td>Greater than 10% of total household expenditure or income on health</td>
<td>(% of population)</td>
<td>2000–2017</td>
<td>SDG indicators database, The World Bank, World Health Organization</td>
</tr>
<tr>
<td>UHC index of essential service coverageb</td>
<td>(based on 16 tracer indicators including TB treatment)</td>
<td>2000–2017</td>
<td>SDG indicators database, The World Bank, World Health Organization</td>
</tr>
</tbody>
</table>

### Gini Index

<table>
<thead>
<tr>
<th>Gini Index</th>
<th>Description</th>
<th>Year Range</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–100</td>
<td>(0 = perfect equality, 100 = perfect inequality)</td>
<td>2000–2017</td>
<td>SDG indicators database, The World Bank, World Health Organization</td>
</tr>
</tbody>
</table>

### Population Living Below the International Poverty Line

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Year Range</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population living below the international poverty line</td>
<td>(% of population)</td>
<td>2000–2017</td>
<td>SDG indicators database, The World Bank, World Health Organization</td>
</tr>
</tbody>
</table>

### Population Covered by Social Protection Floors/Systems

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Year Range</th>
<th>Data Sources</th>
</tr>
</thead>
</table>

### Prevalence of Undernourishment

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Year Range</th>
<th>Data Sources</th>
</tr>
</thead>
</table>

### Access to Clean Fuels and Technologies for Cooking

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Year Range</th>
<th>Data Sources</th>
</tr>
</thead>
</table>

### GDP per Capita, PPPb

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Year Range</th>
<th>Data Sources</th>
</tr>
</thead>
</table>

###GINI index

<table>
<thead>
<tr>
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<th>Description</th>
<th>Year Range</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>GINI index</td>
<td>(0 = perfect equality, 100 = perfect inequality)</td>
<td>2000–2017</td>
<td>SDG indicators database, The World Bank, World Health Organization</td>
</tr>
</tbody>
</table>

### Population Living in Slums

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Year Range</th>
<th>Data Sources</th>
</tr>
</thead>
</table>

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* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

b GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage
ESTIMATES OF TB BURDEN, 2018

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>866 (740–1 000) 61 (52–70)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>18 (9.8–28) 1.2 (0.69–2)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence⁵</td>
<td>66 (50–85) 4.6 (3.5–6)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>37 (34–41) 2.6 (2.4–2.9)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>2.4 (1.2–4) 0.17 (0.08–0.28)</td>
</tr>
</tbody>
</table>

ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

New cases 7.1% (5.6–8.7)
Previously treated cases 21% (21–21)

TB CASE NOTIFICATIONS, 2018

Total new and relapse 795 265
- % tested with rapid diagnostics at time of diagnosis 15%
- % with known HIV status 60%
- % pulmonary 95%
- % bacteriologically confirmed 37%
- % children aged 0-14 years 1%
- % women 31%
- % men 68%
Total cases notified 801 532

UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2018 92% (79–110)
TB patients facing catastrophic total costs
TB case fatality ratio (estimated mortality/estimated incidence), 2018 5% (4–6)

TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

Patients with known HIV-status who are HIV-positive 7 915 2%
- on antiretroviral therapy 6 915 87%

DRUG-RESISTANT TB CARE, 2018

% of bacteriologically confirmed TB cases tested for rifampicin resistance³
- New cases 58%
- Previously treated cases 100%

Laboratory-confirmed cases⁴
MDR/RR-TB: 14 656, XDR-TB: 430

Patients started on treatment⁵
MDR/RR-TB: 8 965, XDR-TB: 885

MDR/RR-TB cases tested for resistance to second-line drugs

TREATMENT SUCCESS RATE AND COHORT SIZE

SUCCESS COHORT
New and relapse cases registered in 2017 93% 764 701
Previously treated cases, excluding relapse, registered in 2017 85% 5 077
HIV-positive TB cases registered in 2017 87% 5 306
MDR/RR-TB cases started on second-line treatment in 2016 52% 5 405
XDR-TB cases started on second-line treatment in 2016

TB PREVENTIVE TREATMENT, 2018

% of HIV-positive people (newly enrolled in care) on preventive treatment
% of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment

TB FINANCING, 2019

National TB budget (US$ millions) 719
Funding source: 92% domestic, 1% international, 7% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

1 Ranges represent uncertainty intervals.
2 MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
3 Calculated for pulmonary cases only.
4 Includes cases with unknown previous TB treatment history.
5 Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
### INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>2000</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV prevalence</td>
<td>(% of population aged 15–49 years)</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Diabetes prevalence</td>
<td>(% of population aged ≥18 years)</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Alcohol use disorders, 12 month prevalence</td>
<td>(% of population aged ≥15 years)</td>
<td>100</td>
<td>70</td>
</tr>
<tr>
<td>Smoking prevalence</td>
<td>(% of population aged ≥15 years)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Health expenditure per capita, PPPb</td>
<td>(current international $)</td>
<td>500</td>
<td>1000</td>
</tr>
<tr>
<td>Greater than 10% of total household expenditure or income on health</td>
<td>(% of population)</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>UHC index of essential service coverageb</td>
<td>(based on 16 tracer indicators including TB treatment)</td>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>

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**Notes:**
- Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.
- GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

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**NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018**

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>2000</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Diabetes</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Harmful use of alcohol</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Smoking</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Undernourishment</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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**Data for all countries and years can be downloaded from www.who.int/tb/data**
Democratic People's Republic of Korea

**POPULATION 2018** 26 MILLION

### ESTIMATES OF TB BURDEN,* 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (thousands)</th>
<th>RATE (per 100,000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>131 (114–149)</td>
<td>513 (466–584)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>0.22 (0.12–0.36)</td>
<td>0.87 (0.47–1.4)</td>
</tr>
<tr>
<td>MDR/RR-TB incidenceα</td>
<td>5.2 (2.5–8.8)</td>
<td>20 (10–34)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>20 (14–27)</td>
<td>80 (56–107)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>0.068 (0.035–0.11)</td>
<td>0.27 (0.14–0.44)</td>
</tr>
</tbody>
</table>

### ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases 2.2%
- Previously treated cases 16% (9.1–25)

### UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage (notified/estimated incidence), 2018 69% (60–79)
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018 16% (11–21)

### TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with known HIV-status who are HIV-positive</td>
<td>0</td>
</tr>
<tr>
<td>- on antiretroviral therapy</td>
<td>0</td>
</tr>
</tbody>
</table>

### DRUG-RESISTANT TB CARE, 2018

- % of bacteriologically confirmed TB cases tested for rifampicin resistanceα
  - New cases
  - Previously treated cases
  - Laboratory-confirmed casesα
  - MDR/RR-TB: 1 782, XDR-TB: 0
- Patients started on treatmentα
  - MDR/RR-TB: 1 487, XDR-TB: 0
- MDR/RR-TB cases tested for resistance to second-line drugs 0

### TREATMENT SUCCESS RATE AND COHORT SIZE

- New and relapse cases registered in 2017 83% 100 553
- Previously treated cases, excluding relapse, registered in 2017
- HIV-positive TB cases registered in 2017
- MDR/RR-TB cases started on second-line treatment in 2016 80% 814
- XDR-TB cases started on second-line treatment in 2016

### TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment 100%

### TB FINANCING, 2019

- National TB budget (US$ millions) 50
- Funding source: 12% domestic, 14% international, 75% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

α Ranges represent uncertainty intervals.

α MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

α Calculated for pulmonary cases only.

α Includes cases with unknown previous TB treatment history.

α Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

Data for all countries and years can be downloaded from www.who.int/tb/data
INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE

- HIV prevalence (% of population aged 15–49 years)
- Diabetes prevalence (% of population aged ≥18 years)
- Alcohol use disorders, 12 month prevalence (% of population aged ≥15 years)
- Smoking prevalence (% of population aged ≥15 years)
- Health expenditure per capita, PPPb (current international $)

Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

a Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

b GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018

Data for all countries and years can be downloaded from www.who.int/tb/data
Democratic Republic of the Congo

**POPULATION 2018** 84 MILLION

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### ESTIMATES OF TB BURDEN,* 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>270 (175–385)</td>
<td>321 (208–458)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>31 (9.6–65)</td>
<td>37 (11–77)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>6 (3–10)</td>
<td>7.2 (3.6–12)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>43 (25–65)</td>
<td>51 (30–77)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>10 (3.2–22)</td>
<td>12 (3.8–26)</td>
</tr>
</tbody>
</table>

### ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 1.7% (1.1–2.6)
- Previously treated cases: 9.5% (8.8–10)

### TB CASE NOTIFICATIONS, 2018

- Total new and relapse: 169 748
  - % tested with rapid diagnostics at time of diagnosis: 7%
  - % with known HIV status: 60%
  - % pulmonary: 83%
  - % bacteriologically confirmed: 77%
  - % children aged 0–14 years: 11%
  - % women: 39%
  - % men: 50%
- Total cases notified: 171 682

### UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage (notified/estimated incidence), 2018: 63% (44–97)
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 20% (10–33)

### TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

- Patients with known HIV-status who are HIV-positive: 9 758 (9%)
  - on antiretroviral therapy: 8 481 (87%)

### DRUG-RESISTANT TB CARE, 2018

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 2%
  - Previously treated cases: 66%
- Laboratory-confirmed cases:
  - MDR/RR-TB: 765, XDR-TB: 22
- Patients started on treatment:
  - MDR/RR-TB: 690, XDR-TB: 15
- MDR/RR-TB cases tested for resistance to second-line drugs: 328

### TREATMENT SUCCESS RATE AND COHORT SIZE

- New and relapse cases registered in 2017: 90% (169 657)
- Previously treated cases, excluding relapse, registered in 2017: 70% (1 593)
- HIV-positive TB cases registered in 2017: 78% (9 668)
- MDR/RR-TB cases started on second-line treatment in 2016: 86% (634)
- XDR-TB cases started on second-line treatment in 2016: 39% (18)

### TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 39%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 24% (22–26)

### TB FINANCING, 2019

- National TB budget (US$ millions): 44
- Funding source: 4% domestic, 55% international, 41% unfunded

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Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

* Ranges represent uncertainty intervals.
* MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
* Calculated for pulmonary cases only.
* Includes cases with unknown previous TB treatment history.
* Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE*

- HIV prevalence (% of population aged 15–49 years)
- Diabetes prevalence (% of population aged ≥18 years)
- Alcohol use disorders, 12 month prevalence (% of population aged ≥15 years)
- Smoking prevalence (% of population aged ≥15 years)
- Health expenditure per capita, PPP⁶ (current international $)
- Population living below the international poverty line (% of population)
- Population covered by social protection floors/systems (% of population)
- Prevalence of undernourishment (% of population)
- Access to clean fuels and technologies for cooking (% of population)
- GDP per capita, PPP⁶ (constant 2011 international $)
- GINI index (0 = perfect equality, 100 = perfect inequality)
- Population covered by social protection floors/systems (% of population)
- UHC index of essential services coverage³ (based on 16 tracer indicators including TB treatment)
- Population living in slums (% of urban population)

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* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

⁶ GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

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Data for all countries and years can be downloaded from www.who.int/tb/data
Ethiopia

**ESTIMATES OF TB BURDEN, 2018**

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>165 (116–223) 151 (107–204)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>7.6 (5.3–10) 7 (4.9–9.4)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>1.6 (1–2.2) 1.4 (0.96–2)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>24 (15–36) 22 (14–33)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>2.2 (1.5–3) 2 (1.4–2.8)</td>
</tr>
</tbody>
</table>

**ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018**

- New cases: 0.71%
- Previously treated cases: 16% (14–17)

**TB CASE NOTIFICATIONS, 2018**

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total new and relapse</td>
<td>113 613</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>7.6 (5.3–10) 7 (4.9–9.4)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>24 (15–36) 22 (14–33)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>2.2 (1.5–3) 2 (1.4–2.8)</td>
</tr>
</tbody>
</table>

**UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION**

- TB treatment coverage (notified/estimated incidence), 2018: 69% (51–98)
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 17% (9–25)

**TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018**

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with known HIV-status who are HIV-positive</td>
<td>4 816</td>
</tr>
<tr>
<td>- on antiretroviral therapy</td>
<td>4 393</td>
</tr>
</tbody>
</table>

**DRUG-RESISTANT TB CARE, 2018**

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 80%
  - Previously treated cases: 100%
- Laboratory-confirmed cases:
  - MDR/RR-TB: 741, XDR-TB: 3
  - Patients started on treatment:
    - MDR/RR-TB: 747, XDR-TB: 3
- MDR/RR-TB cases tested for resistance to second-line drugs: 360

**TREATMENT SUCCESS RATE AND COHORT SIZE**

<table>
<thead>
<tr>
<th>SUCCESS</th>
<th>COHORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>New cases registered in 2017</td>
<td>96%</td>
</tr>
<tr>
<td>Previously treated cases registered in 2017</td>
<td></td>
</tr>
<tr>
<td>HIV-positive TB cases registered in 2017</td>
<td></td>
</tr>
<tr>
<td>MDR/RR-TB cases started on second-line treatment in 2016</td>
<td>72%</td>
</tr>
<tr>
<td>XDR-TB cases started on second-line treatment in 2016</td>
<td></td>
</tr>
</tbody>
</table>

**TB PREVENTIVE TREATMENT, 2018**

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 49%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 22% (20–24)

**TB FINANCING, 2019**

| National TB budget (US$ millions) | 94 |

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

- Ranges represent uncertainty intervals.
- MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
- Calculated for pulmonary cases only.
- Includes cases with unknown previous TB treatment history.
- Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
Data for all countries and years can be downloaded from www.who.int/tb/data
India

ESTIMATES OF TB BURDEN,* 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>2 690 (1 840–3 700)</td>
<td>199 (136–273)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>92 (63–126)</td>
<td>6.8 (4.6–9.3)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence*</td>
<td>130 (77–198)</td>
<td>9.6 (5.7–15)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>440 (408–472)</td>
<td>32 (30–35)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>9.7 (5.7–15)</td>
<td>0.72 (0.42–1.1)</td>
</tr>
</tbody>
</table>

ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 2.8% (2.3–3.5)
- Previously treated cases: 14% (14–14)

TB CASE NOTIFICATIONS, 2018

- Total new and relapse: 1 994 000
  - % tested with rapid diagnostics at time of diagnosis: 50%
  - % with known HIV status: 72%
  - % pulmonary: 82%
  - % bacteriologically confirmed: 57%
  - % children aged 0–14 years: 6%
  - % women: 34%
  - % men: 60%
- Total cases notified: 2 155 894

UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage (notified/estimated incidence), 2018: 74% (54–110)
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 17% (12–24)

TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

- Patients with known HIV-status who are HIV-positive: 49 067 (3%)
  - on antiretroviral therapy: 44 080 (90%)

DRUG-RESISTANT TB CARE, 2018

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 46%
  - Previously treated cases: 91%
- Laboratory-confirmed cases:
  - MDR/RR-TB: 58 547, XDR-TB: 3 400
  - Patients started on treatment:
    - MDR/RR-TB: 46 569, XDR-TB: 2 724
  - MDR/RR-TB cases tested for resistance to second-line drugs: 38 236

TREATMENT SUCCESS RATE AND COHORT SIZE

- New and relapse cases registered in 2017: 81% 1 568 392
- Previously treated cases, excluding relapse, registered in 2017: 56% 1 469 822
- HIV-positive TB cases registered in 2017: 6% 146 962
- MDR/RR-TB cases started on second-line treatment in 2016: 48% 33 197
- XDR-TB cases started on second-line treatment in 2016: 30% 2 464

TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 17%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 26% (24–28)

TB FINANCING, 2019

- National TB budget (US$ millions): 583
- Funding source: 77% domestic, 23% international, 0% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates of TB incidence and mortality for India are interim in nature, pending results from the national TB prevalence survey planned for 2019/2020.

* Ranges represent uncertainty intervals.
* MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
* Calculated for pulmonary cases only.
* Includes cases with unknown previous TB treatment history.
* Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
**GLOBAL TUBERCULOSIS REPORT 2019**

Data for all countries and years can be downloaded from www.who.int/tb/data

**INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCEa**

<table>
<thead>
<tr>
<th>SDG Goal</th>
<th>Indicator</th>
<th>Description</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>HIV prevalence</td>
<td>(% of population aged 15–49 years)</td>
<td>Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.</td>
</tr>
<tr>
<td>3</td>
<td>Diabetes prevalence</td>
<td>(% of population aged ≥18 years)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Alcohol use disorders, 12 month prevalence</td>
<td>(% of population aged ≥15 years)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Smoking prevalence</td>
<td>(% of population aged ≥15 years)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Health expenditure per capita, PPPb</td>
<td>(current international $)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Greater than 10% of total household expenditure or income on health</td>
<td>(% of population)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>UHC index of essential service coverageb</td>
<td>(based on 16 tracer indicators including TB treatment)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Population living below the international poverty line</td>
<td>(% of population)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Population covered by social protection floors/systems</td>
<td>(% of population)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Prevalence of undernourishment</td>
<td>(% of population)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Access to clean fuels and technologies for cooking</td>
<td>(% of population)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>GDP per capita, PPPb</td>
<td>(constant 2011 international $)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>GINI index</td>
<td>(0 = perfect equality, 100 = perfect inequality)</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Population living in slums</td>
<td>(% of urban population)</td>
<td></td>
</tr>
</tbody>
</table>

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*Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

*GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage
Indonesia

ESTIMATES OF TB BURDEN,* 2018

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>845 (770–923)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>21 (8–9–11)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence**</td>
<td>24 (17–32)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>95 (87–99)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>5.3 (2.1–9.8)</td>
</tr>
</tbody>
</table>

ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

<table>
<thead>
<tr>
<th>Total new and relapse</th>
<th>563 879</th>
</tr>
</thead>
<tbody>
<tr>
<td>% tested with rapid diagnostics at time of diagnosis</td>
<td>12%</td>
</tr>
<tr>
<td>% with known HIV status</td>
<td>37%</td>
</tr>
<tr>
<td>% pulmonary</td>
<td>37%</td>
</tr>
<tr>
<td>% bacteriologically confirmed‡</td>
<td>50%</td>
</tr>
<tr>
<td>% children aged 0–14 years</td>
<td>11%</td>
</tr>
<tr>
<td>% women</td>
<td>37%</td>
</tr>
<tr>
<td>% men</td>
<td>52%</td>
</tr>
<tr>
<td>Total cases notified</td>
<td>570 289</td>
</tr>
</tbody>
</table>

UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2018 | 67% (61–73) |
TB patients facing catastrophic total costs | |
TB case fatality ratio (estimated mortality/estimated incidence), 2018 | 12% (10–13) |

TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

| NUMBER (%) |
|-----------------|---------|
| Patients with known HIV-status who are HIV-positive | 10 174 (5%) |
| – on antiretroviral therapy | 4 082 (40%) |

DRUG-RESISTANT TB CARE, 2018

% of bacteriologically confirmed TB cases tested for rifampicin resistance* |
| New cases | 33% |
| Previous treated cases | 127% |

Laboratory-confirmed cases‡ | MDR/RR-TB: 9 038, XDR-TB: 80 |

Patients started on treatment‡,‡ | MDR/RR-TB: 4 194, XDR-TB: 59 |

MDR/RR-TB cases tested for resistance to second-line drugs | 2 526 |

TREATMENT SUCCESS RATE AND COHORT SIZE

SUCCESS | COHORT |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New and relapse cases registered in 2017</td>
<td>85%</td>
</tr>
<tr>
<td>Previously treated cases, excluding relapse, registered in 2017</td>
<td>73%</td>
</tr>
<tr>
<td>HIV-positive TB cases registered in 2017</td>
<td>69%</td>
</tr>
<tr>
<td>MDR/RR-TB cases started on second-line treatment in 2016</td>
<td>48%</td>
</tr>
<tr>
<td>XDR-TB cases started on second-line treatment in 2016</td>
<td>21%</td>
</tr>
</tbody>
</table>

TB PREVENTIVE TREATMENT, 2018

% of HIV-positive people (newly enrolled in care) on preventive treatment | 10% |
% of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment | 10% (9.3–11) |

TB FINANCING, 2019

<table>
<thead>
<tr>
<th>National TB budget (US$ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>366</td>
</tr>
</tbody>
</table>

Funding source: | 30% domestic,* 13% international, 57% unknown |

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

* Ranges represent uncertainty intervals.

** MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

† Calculated for pulmonary cases only.

‡ Includes cases with unknown previous TB treatment history.

§ Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

<table>
<thead>
<tr>
<th></th>
<th>DSR-TB</th>
<th>XDR-TB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funded domestically</td>
<td>Funded internationally</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

206 GLOBAL TUBERCULOSIS REPORT 2019 Data for all countries and years can be downloaded from www.who.int/tb/data
KENYA

POPULATION 2018

51 MILLION

ESTIMATES OF TB BURDEN,* 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>150 (92–222)</td>
<td>292 (179–432)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>40 (25–50)</td>
<td>79 (68–117)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>2.3 (1.1–4.1)</td>
<td>4.5 (2.1–7.9)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>19 (11–30)</td>
<td>38 (22–59)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>13 (8.1–20)</td>
<td>26 (16–38)</td>
</tr>
</tbody>
</table>

* Ranges represent uncertainty intervals.

ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 1.3% (0.74–2)
- Previously treated cases: 4.4% (3.7–5.2)

TB CASE NOTIFICATIONS, 2018

- Total new and relapse: 94,534
- % tested with rapid diagnostics at time of diagnosis: 47%
- % with known HIV status: 98%
- % pulmonary: 85%
- % bacteriologically confirmed: 58%
- % children aged 0–14 years: 10%
- % women: 32%
- % men: 58%
- Total cases notified: 96,478

UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage (notified/estimated incidence), 2018: 63% (43–100)
- TB patients facing catastrophic total costs, 2017: 27% (21–32)
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 23% (12–36)

TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

- Patients with known HIV-status who are HIV-positive: 24,950 (27%)
- on antiretroviral therapy: 24,186 (97%)

DRUG-RESISTANT TB CARE, 2018

- % of bacteriologically confirmed TB cases tested for rifampicin resistance
  - New cases: 64%
  - Previously treated cases: 79%
- Laboratory-confirmed cases:  MDR/RR-TB: 665, XDR-TB: 1
- Patients started on treatment:  MDR/RR-TB: 470, XDR-TB: 1
- MDR/RR-TB cases tested for resistance to second-line drugs: 125

TREATMENT SUCCESS RATE AND COHORT SIZE

- New and relapse cases registered in 2017: 83% (83,088)
- Previously treated cases, excluding relapse, registered in 2017: 72% (1,583)
- HIV-positive TB cases registered in 2017: 78% (23,060)
- MDR/RR-TB cases started on second-line treatment in 2016: 68% (308)
- XDR-TB cases started on second-line treatment in 2016: 0

TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 34% (31–37)
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 34% (31–37)

TB FINANCING, 2019

- National TB budget (US$ millions): 81
- Funding source: 22% domestic, 15% international, 63% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

* Ranges represent uncertainty intervals.

† MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

‡ Calculated for pulmonary cases only.

§ Includes cases with unknown previous TB treatment history.

||
HIV prevalence (% of population aged 15–49 years)

Diabetes prevalence (% of population aged ≥18 years)

Alcohol use disorders, 12 month prevalence (% of population aged ≥15 years)

Smoking prevalence (% of population aged ≥15 years)

Health expenditure per capita, PPP\(^b\) (current international $)

Greater than 10% of total household expenditure or income on health (% of population)

UHC index of essential service coverage\(^b\) (based on 16 tracer indicators including TB treatment)

Population living below the international poverty line (% of population)

Population covered by social protection floors/systems (% of population)

Prevalence of undernourishment (% of population)

Access to clean fuels and technologies for cooking (% of population)

GDP per capita, PPP\(^a\) (constant 2011 international $)

GINI index (0 = perfect equality, 100 = perfect inequality)

Population living in slums (% of urban population)

---

\(\text{a Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.}\)

\(\text{b GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage}\)
Mozambique

ESTIMATES OF TB BURDEN,* 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>162 (105–232)</td>
<td>551 (356–787)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>58 (38–83)</td>
<td>197 (127–281)</td>
</tr>
<tr>
<td>MDR/RR-TB incidencea</td>
<td>8.3 (4.4–14)</td>
<td>28 (15–46)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>21 (13–32)</td>
<td>72 (43–109)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>22 (16–31)</td>
<td>73 (46–106)</td>
</tr>
</tbody>
</table>

ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New cases</td>
<td>3.7% (2.5–5.2)</td>
<td></td>
</tr>
<tr>
<td>Previously treated cases</td>
<td>20% (5.2–60)</td>
<td></td>
</tr>
</tbody>
</table>

TB CASE NOTIFICATIONS, 2018

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total new and relapse</td>
<td>92 381</td>
<td></td>
</tr>
<tr>
<td>– % tested with rapid diagnostics at time of diagnosis</td>
<td>41%</td>
<td></td>
</tr>
<tr>
<td>– % with known HIV status</td>
<td>98%</td>
<td></td>
</tr>
<tr>
<td>– % pulmonary</td>
<td>93%</td>
<td></td>
</tr>
<tr>
<td>– % bacteriologically confirmedd</td>
<td>39%</td>
<td></td>
</tr>
<tr>
<td>– % children aged 0–14 years</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>– % women</td>
<td>42%</td>
<td></td>
</tr>
<tr>
<td>– % men</td>
<td>45%</td>
<td></td>
</tr>
</tbody>
</table>

UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2018 57% (40–88)
TB patients facing catastrophic total costs
TB case fatality ratio (estimated mortality/estimated incidence), 2018 27% (15–41)

TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with known HIV-status who are HIV-positive</td>
<td>32 641</td>
<td>36%</td>
</tr>
<tr>
<td>– on antiretroviral therapy</td>
<td>31 440</td>
<td>96%</td>
</tr>
</tbody>
</table>

DRUG-RESISTANT TB CARE, 2018

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>% of bacteriologically confirmed TB cases tested for rifampicin resistancee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– New cases</td>
<td>44%</td>
<td></td>
</tr>
<tr>
<td>– Previously treated cases</td>
<td>66%</td>
<td></td>
</tr>
<tr>
<td>Laboratory-confirmed casesf</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients started on treatmentg,h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– MDR/RR-TB: 1 158, XDR-TB: 45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDR/RR-TB cases tested for resistance to second-line drugs</td>
<td>472</td>
<td></td>
</tr>
</tbody>
</table>

TREATMENT SUCCESS RATE AND COHORT SIZE

<table>
<thead>
<tr>
<th></th>
<th>SUCCESS</th>
<th>COHORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>New and relapse cases registered in 2017</td>
<td>90%</td>
<td>82 674</td>
</tr>
<tr>
<td>Previously treated cases, excluding relapse, registered in 2017</td>
<td>79%</td>
<td>1 139</td>
</tr>
<tr>
<td>HIV-positive TB cases registered in 2017</td>
<td>85%</td>
<td>34 056</td>
</tr>
<tr>
<td>MDR/RR-TB cases started on second-line treatment in 2016</td>
<td>50%</td>
<td>854</td>
</tr>
<tr>
<td>XDR-TB cases started on second-line treatment in 2016</td>
<td>32%</td>
<td>25</td>
</tr>
</tbody>
</table>

TB PREVENTIVE TREATMENT, 2018

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>% of HIV-positive people (newly enrolled in care) on preventive treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of children (aged &lt;5) household contacts of bacteriologically confirmed TB cases on preventive treatment</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

TB FINANCING, 2019

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>National TB budget (US$ millions)</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Funding source:</td>
<td>7% domestic, 80% international, 13% unfunded</td>
<td></td>
</tr>
</tbody>
</table>

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates of TB incidence and mortality for Mozambique will be reviewed after final results from the national TB prevalence survey are available in 2020.

a Ranges represent uncertainty intervals.

b MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

c Calculated for pulmonary cases only.

d Includes cases with unknown previous TB treatment history.

e Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

Funded domestically Funded internationally Unfunded

Arms andDATA: 2019

Data for all countries and years can be downloaded from www.who.int/tb/data

GLOBAL TUBERCULOSIS REPORT 2019
Number of TB cases attributable to five risk factors, 2018

- Diabetes
- Harmful use of alcohol
- Smoking
- HIV
- Undernourishment

Indicators in the Sustainable Development Goals associated with TB incidence:

1. Population living below the international poverty line (% of population)
2. Population covered by social protection floors/systems (% of population)
3. Prevalence of undernourishment (% of population)
4. Access to clean fuels and technologies for cooking (% of population)
5. GDP per capita, PPPb (constant 2011 international $)
6. GINI index (0 = perfect equality, 100 = perfect inequality)
7. Population living in slums (% of urban population)

Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

b GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage
## Myanmar

### ESTIMATES OF TB BURDEN, 2018

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>181 (119–256)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>15 (10–22)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>11 (7.4–16)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>21 (12–31)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>3.7 (2.5–5.2)</td>
</tr>
</tbody>
</table>

### ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 4.9% (4.7–5.1)
- Previously treated cases: 20% (19–21)

### TB CASE NOTIFICATIONS, 2018

- Total new and relapse: 137 972
  - % with rapid diagnostics at time of diagnosis: 42%
  - % with known HIV status: 89%
  - % pulmonary: 91%
  - % bacteriologically confirmed: 44%
  - % children aged 0–14 years: 19%
  - % women: 29%
  - % men: 52%
- Total cases notified: 139 518

### UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage (notified/estimated incidence), 2018: 76% (54–120)
- TB patients facing catastrophic total costs, 2015: 60% (56–63)
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 14% (8–22)

### TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

<table>
<thead>
<tr>
<th>NUMBER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with known HIV-status who are HIV-positive</td>
</tr>
<tr>
<td>– on antiretroviral therapy</td>
</tr>
</tbody>
</table>

### DRUG-RESISTANT TB CARE, 2018

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 92%
  - Previously treated cases: 84%
- Laboratory-confirmed cases:
  - MDR/RR-TB: 3 479, XDR-TB: 35
  - Patients started on treatment:
    - MDR/RR-TB: 2 650, XDR-TB: 29
    - MDR/RR-TB cases tested for resistance to second-line drugs: 927

### TREATMENT SUCCESS RATE AND COHORT SIZE

<table>
<thead>
<tr>
<th>SUCCESS</th>
<th>COHORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>New and relapse cases registered in 2017</td>
<td>87%</td>
</tr>
<tr>
<td>Previously treated cases, excluding relapse, registered in 2017</td>
<td>76%</td>
</tr>
<tr>
<td>HIV-positive TB cases registered in 2017</td>
<td>73%</td>
</tr>
<tr>
<td>MDR/RR-TB cases started on second-line treatment in 2016</td>
<td>79%</td>
</tr>
<tr>
<td>XDR-TB cases started on second-line treatment in 2016</td>
<td>63%</td>
</tr>
</tbody>
</table>

### TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 15%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 3.1% (2.8–3.4)

### TB FINANCING, 2019

- National TB budget (US$ millions): 62
- Funding source: 3% domestic, 60% international, 37% unfunded
Data for all countries and years can be downloaded from www.who.int/tb/data

**INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE**

- **HIV prevalence** (% of population aged 15–49 years)
- **Diabetes prevalence** (% of population aged ≥18 years)
- **Alcohol use disorders, 12 month prevalence** (% of population aged ≥15 years)
- **Smoking prevalence** (% of population aged ≥15 years)
- **Health expenditure per capita, PPP** (current international $)
- **Greater than 10% of total household expenditure or income on health** (% of population)
- **GINI index** (0 = perfect equality, 100 = perfect inequality)
- **UHC index of essential service coverage** (based on 16 tracer indicators including TB treatment)

**NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018**

- Diabetes
- Harmful use of alcohol
- HIV
- Smoking
- Undernourishment

**Data sources:** SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

**GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage**
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.
a Ranges represent uncertainty intervals.
b MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
c Calculated for pulmonary cases only.
d Includes cases with unknown previous TB treatment history.
e Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

Data for all countries and years can be downloaded from www.who.int/tb/data
Data for all countries and years can be downloaded from www.who.int/tb/data

### Indicators in the Sustainable Development Goals Associated with TB Incidence

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2000</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIV Prevalence</strong> (% of population aged 15–49 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Diabetes Prevalence</strong> (% of population aged ≥18 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Smoking Prevalence</strong> (% of population aged ≥15 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Health expenditure per capita, PPP</strong> (current international $)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Greater than 10% of total household expenditure or income on health</strong> (% of population)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UHC index of essential service coverage</strong> (based on 16 tracer indicators including TB treatment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Population living below the international poverty line</strong> (% of population)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Population covered by social protection floors/systems</strong> (% of population)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Prevalence of undernourishment</strong> (% of population)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Access to clean fuels and technologies for cooking</strong> (% of population)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GDP per capita, PPP</strong> (constant 2011 international $)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GINI index</strong> (0 = perfect equality, 100 = perfect inequality)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Population living in slums</strong> (% of urban population)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

- Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.
- GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

### Number of TB Cases Attributable to Five Risk Factors, 2018

- **Harmful use of alcohol**
- **Diabetes**
- **Smoking**
- **HIV**
- **Undernourishment**

Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.
ESTIMATES OF TB BURDEN, 2018

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100,000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>562 (399–754)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>3.8 (2.5–5.4)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>28 (18–40)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>4.5 (3.5–5.2)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>1.3 (0.83–1.8)</td>
</tr>
</tbody>
</table>

ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

<table>
<thead>
<tr>
<th></th>
<th>New cases</th>
<th>Previously treated cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.2% (3.2–5.3)</td>
<td>16% (15–17)</td>
</tr>
</tbody>
</table>

TB CASE NOTIFICATIONS, 2018

<table>
<thead>
<tr>
<th></th>
<th>360,472</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total new and relapse</td>
<td>360,472</td>
</tr>
</tbody>
</table>

UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2018 | 64% (48–90)

TB patients facing catastrophic total costs

TB case fatality ratio (estimated mortality/estimated incidence), 2018 | 8% (5–11)

TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

|                      | NUMBER (%)
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with known HIV-status who are HIV-positive</td>
<td>656 (&lt;1%)</td>
</tr>
<tr>
<td>on antiretroviral therapy</td>
<td>417 (66%)</td>
</tr>
</tbody>
</table>

DRUG-RESISTANT TB CARE, 2018

<table>
<thead>
<tr>
<th></th>
<th>45%</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of bacteriologically confirmed TB cases tested for rifampicin resistance</td>
<td>45%</td>
</tr>
</tbody>
</table>

TREATMENT SUCCESS RATE AND COHORT SIZE

<table>
<thead>
<tr>
<th>SUCCESS COHORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>New and relapse cases registered in 2017</td>
</tr>
<tr>
<td>Previously treated cases, excluding relapse, registered in 2017</td>
</tr>
<tr>
<td>HIV-positive TB cases registered in 2017</td>
</tr>
</tbody>
</table>

TB PREVENTIVE TREATMENT, 2018

% of HIV-positive people (newly enrolled in care) on preventive treatment

% of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment | 5.7% (5.2–6.3)

TB FINANCING, 2019

<table>
<thead>
<tr>
<th></th>
<th>135</th>
</tr>
</thead>
<tbody>
<tr>
<td>National TB budget (US$ millions)</td>
<td>3% domestic, 31% international, 66% unfunded</td>
</tr>
</tbody>
</table>

Data for all countries and years can be downloaded from www.who.int/tb/data
HIV prevalence (% of population aged 15–49 years)

Diabetes prevalence (% of population aged ≥18 years)

Alcohol use disorders, 12 month prevalence (% of population aged ≥15 years)

Smoking prevalence (% of population aged ≥15 years)

Health expenditure per capita, PPPb (current international $)

Greater than 10% of total household expenditure or income on health (% of population)

UHC index of essential service coverageb (based on 16 tracer indicators including TB treatment)

Population living below the international poverty line (% of population)

Population covered by social protection floors/systems (% of population)

Prevalence of undernourishment (% of population)

Access to clean fuels and technologies for cooking (% of population)

GDP per capita, PPPa (constant 2011 international $)

GINI index (0 = perfect equality, 100 = perfect inequality)

Population living in slums (% of urban population)

Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

a GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

b Data for all countries and years can be downloaded from www.who.int/tb/data

GLOBAL TUBERCULOSIS REPORT 2019

217
ESTIMATES OF TB BURDEN, * 2018

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>591 (532–924)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>10 (4.1–19)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence*</td>
<td>18 (7.7–52)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>26 (22–50)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>0.6 (0–4.2)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>0.57 (0–4)</td>
</tr>
</tbody>
</table>

ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 1.7% (1.1–2.5)
- Previously treated cases: 16% (13–20)

TB CASE NOTIFICATIONS, 2018

- Total new and relapse: 371 668
  - % tested with rapid diagnostics at time of diagnosis: 36%
  - % with known HIV status: 27%
  - % pulmonary: 98%
  - % bacteriologically confirmed ‡: 36%
  - % children aged 0–14 years: 12%
  - % women: 30%
  - % men: 58%
- Total cases notified: 382 543

UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage (notified/estimated incidence), 2018: 63% (40–110)
- TB patients facing catastrophic total costs, 2017: 35% (33–37)
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 5% (3–7)

TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

- Patients with known HIV-status who are HIV-positive: 1 477 (1%)
  - on antiretroviral therapy: 1 350 (91%)

DRUG-RESISTANT TB CARE, 2018

- % of bacteriologically confirmed TB cases tested for rifampicin resistance*:<1%
  - New cases: <1%
  - Previously treated cases: 24%
- Laboratory-confirmed cases‡: MDR/RR-TB: 7 276, XDR-TB: 52
  - Patients started on treatment*: MDR/RR-TB: 6 125, XDR-TB: 52
  - MDR/RR-TB cases tested for resistance to second-line drugs: 2 095

TREATMENT SUCCESS RATE AND COHORT SIZE

- New and relapse cases registered in 2017: 91% 315 923
- Previously treated cases, excluding relapse, registered in 2017: 82% 9 486
- HIV-positive TB cases registered in 2017: 85% 1 258
- MDR/RR-TB cases started on second-line treatment in 2016: 58% 5 071
- XDR-TB cases started on second-line treatment in 2016: 20% 10

TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 52%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 9.4% (8.7–10)

TB FINANCING, 2019

- National TB budget (US$ millions): 205
  - Funding source: 12% domestic, 25% international, 63% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.
* Ranges represent uncertainty intervals.
† MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
‡ Calculated for pulmonary cases only.
§ Includes cases with unknown previous TB treatment history.
‖ Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

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**Philippines**

**POPULATION 2018 107 MILLION**

**ESTIMATES OF TB BURDEN, 2018**

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<thead>
<tr>
<th>NUMBER (thousands)</th>
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<tbody>
<tr>
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- Total cases notified: 382 543

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- MDR/RR-TB cases started on second-line treatment in 2016: 58% 5 071
- XDR-TB cases started on second-line treatment in 2016: 20% 10

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- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 9.4% (8.7–10)

**TB FINANCING, 2019**

- National TB budget (US$ millions): 205
  - Funding source: 12% domestic, 25% international, 63% unfunded

---

Data for all countries and years can be downloaded from www.who.int/tb/data
**INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV prevalence</td>
<td>(% of population aged 15–49 years)</td>
<td>SDG indicators database, The World Bank, World Health Organization.</td>
</tr>
<tr>
<td>Diabetes prevalence</td>
<td>(% of population aged ≥18 years)</td>
<td></td>
</tr>
<tr>
<td>Alcohol use disorders, 12 month prevalence</td>
<td>(% of population aged ≥15 years)</td>
<td></td>
</tr>
<tr>
<td>Smoking prevalence</td>
<td>(% of population aged ≥15 years)</td>
<td></td>
</tr>
<tr>
<td>Health expenditure per capita, PPPb</td>
<td>(current international $)</td>
<td></td>
</tr>
<tr>
<td>Greater than 10% of total household expenditure or income on health</td>
<td>(% of population)</td>
<td></td>
</tr>
<tr>
<td>UHC index of essential service coverageb</td>
<td>(based on 16 tracer indicators including TB treatment)</td>
<td></td>
</tr>
<tr>
<td>Population living below the international poverty line</td>
<td>(% of population)</td>
<td></td>
</tr>
<tr>
<td>Population covered by social protection floors/systems</td>
<td>(% of population)</td>
<td></td>
</tr>
<tr>
<td>Prevalence of undernourishment</td>
<td>(% of population)</td>
<td></td>
</tr>
<tr>
<td>Access to clean fuels and technologies for cooking</td>
<td>(% of population)</td>
<td></td>
</tr>
<tr>
<td>GDP per capita, PPPb</td>
<td>(constant 2011 international $)</td>
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</tr>
<tr>
<td>GINI index</td>
<td>(0 = perfect equality, 100 = perfect inequality)</td>
<td></td>
</tr>
<tr>
<td>Population living in slums</td>
<td>(% of urban population)</td>
<td></td>
</tr>
</tbody>
</table>

- **Data sources:** SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.
- **GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage**
Russian Federation

**ESTIMATES OF TB BURDEN, 2018**

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>79 (51–112) 54 (35–77)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>16 (10–22) 11 (7–15)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence*</td>
<td>4.1 (2.6–5.9) 2.8 (1.8–4.0)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>9.2 (8.3–10) 6.5 (5.7–7)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>1.3 (0.57–2.2) 0.86 (0.59–1.5)</td>
</tr>
</tbody>
</table>

**ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018**

- New cases: 35% (34–35)
- Previously treated cases: 71% (70–71)

**TB CASE NOTIFICATIONS, 2018**

- Total new and relapse: 78 258
  - % tested with rapid diagnostics at time of diagnosis‡: 73%
  - % with known HIV status: 95%
  - % pulmonary: 92%
  - % bacteriologically confirmed§: 56%
  - % children aged 0–14 years: 3%
  - % women: 29%
  - % men: 68%

- Total cases notified: 106 913

**UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION**

- TB treatment coverage (notified/estimated incidence), 2018: 99% (70–150)
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 14% (9–20)

**TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018**

<table>
<thead>
<tr>
<th>NUMBER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with known HIV-status who are HIV-positive</td>
</tr>
<tr>
<td>– on antiretroviral therapy</td>
</tr>
</tbody>
</table>

**DRUG-RESISTANT TB CARE, 2018**

- % of bacteriologically confirmed TB cases tested for rifampicin resistance*:
  - New cases: 88%
  - Previously treated cases: 95%
- Laboratory-confirmed cases
  - MDR/RR-TB: 27 438, XDR-TB: 5 112
- Patients started on treatment
  - MDR/RR-TB: 17 014, XDR-TB: 6 140
- MDR/RR-TB cases tested for resistance to second-line drugs: 26 601

**TREATMENT SUCCESS RATE AND COHORT SIZE**

- New and relapse cases registered in 2017: 69% 67 593
- Previously treated cases, excluding relapse, registered in 2017: 50% 9 339
- HIV-positive TB cases registered in 2017: 43% 9 655
- MDR/RR-TB cases started on second-line treatment in 2016: 54% 22 593
- XDR-TB cases started on second-line treatment in 2016: 38% 2 909

**TB PREVENTIVE TREATMENT, 2018**

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 97%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 100%

**TB FINANCING, 2019**

- National TB budget (US$ millions): 1 451
- Funding source: 100% domestic, 0% international, 0% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

* UN Population Division estimates are lower than the population registered by the Federal State Statistics Service of the Russian Federation.

† Ranges represent uncertainty intervals.

‡ MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

§ Includes coverage by all molecular genetic methods, including those developed in the Russian Federation

¶ Calculated for pulmonary cases only.

― Includes cases with unknown previous TB treatment history.

†† Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018

INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE*

HIV prevalence (% of population aged 15–49 years)

Diabetes prevalence (% of population aged ≥18 years)

Alcohol use disorders, 12 month prevalence (% of population aged ≥15 years)

Smoking prevalence (% of population aged ≥15 years)

Health expenditure per capita, PPPb (current international $)

Greater than 10% of total household expenditure or income on health (% of population)

UHC index of essential service coverageb (based on 16 tracer indicators including TB treatment)

Population living below the international poverty line (% of population)

Population covered by social protection floors/systems (% of population)

Prevalence of undernourishment (% of population)

Access to clean fuels and technologies for cooking (% of population)

GDP per capita, PPPb (constant 2011 international $)

GINI index (0 = perfect equality, 100 = perfect inequality)

Population living in slums (% of urban population)

* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

b GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

Data for all countries and years can be downloaded from www.who.int/tb/data

GLOBAL TUBERCULOSIS REPORT 2019
Global Tuberculosis Report 2019

Data for all countries and years can be downloaded from www.who.int/tb/data

South Africa

**ESTIMATES OF TB BURDEN, 2018**

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>301 (215–400) 520 (373–691)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>177 (127–235) 306 (219–406)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>11 (7.2–16) 19 (12–28)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>21 (20–23) 37 (35–39)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>42 (30–57) 73 (51–99)</td>
</tr>
</tbody>
</table>

**ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018**

<table>
<thead>
<tr>
<th>Case Type</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New cases</td>
<td>3.4% (2.5–4.3)</td>
</tr>
<tr>
<td>Previously treated cases</td>
<td>7.1% (4.8–9.5)</td>
</tr>
</tbody>
</table>

**TB CASE NOTIFICATIONS, 2018**

- Total new and relapse: 227,999
- % tested with rapid diagnostics at time of diagnosis: 71%
- % with known HIV status: 90%
- % pulmonary: 89%
- % bacteriologically confirmed: 70%
- % children aged 0–14 years: 7%
- % women: 37%
- % men: 56%
- Total cases notified: 235,652

**UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION**

- TB treatment coverage (notified/estimated incidence), 2018: 76% (57–110)
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 22% (14–30)

**TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018**

| NUMBER (%)|
|-----------|-----------|
| Patients with known HIV-status who are HIV-positive | 120,862 59% |
| On antiretroviral therapy | 104,625 87% |

**DRUG-RESISTANT TB CARE, 2018**

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 92%
  - Previously treated cases: 94%
- Laboratory-confirmed cases: MDR/RR-TB: 13,199, XDR-TB: 553
- Patients started on treatment: MDR/RR-TB: 9,558, XDR-TB: 539
- MDR/RR-TB cases tested for resistance to second-line drugs: 7,469

**TREATMENT SUCCESS RATE AND COHORT SIZE**

<table>
<thead>
<tr>
<th>SUCCESS</th>
<th>COHORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>New and relapse cases registered in 2017</td>
<td>77% 240,332</td>
</tr>
<tr>
<td>Previously treated cases, excluding relapse, registered in 2017</td>
<td>59% 6,508</td>
</tr>
<tr>
<td>HIV-positive TB cases registered in 2017</td>
<td>75% 134,672</td>
</tr>
<tr>
<td>MDR/RR-TB cases started on second-line treatment in 2016</td>
<td>54% 11,159</td>
</tr>
<tr>
<td>XDR-TB cases started on second-line treatment in 2016</td>
<td>58% 601</td>
</tr>
</tbody>
</table>

**TB PREVENTIVE TREATMENT, 2018**

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 65%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 59% (54–65)

**TB FINANCING, 2019**

- National TB budget (US$ millions): 240
- Funding source: 87% domestic, 13% international, 0% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates of TB incidence and mortality for South Africa will be reviewed after final results from the national TB prevalence survey are available in 2020.

- Ranges represent uncertainty intervals.
- MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
- Calculated for pulmonary cases only.
- Includes cases with unknown previous TB treatment history.
- Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
DATA FOR ALL COUNTRIES AND YEARS CAN BE DOWNLOADED FROM WWW.WHO.INTERN/TB/DATA

INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE

1. NO POVERTY
   - Population living below the international poverty line (% of population)

2. ZER0 HUNGER
   - Population covered by social protection floors/systems (% of population)

3. GOOD HEALTH AND WELL-BEING
   - HIV prevalence (% of population aged 15–49 years)
   - Diabetes prevalence (% of population aged ≥18 years)
   - Alcohol use disorders, 12 month prevalence (% of population aged ≥15 years)
   - Smoking prevalence (% of population aged ≥15 years)

4. AFFORDABLE AND CLEAN ENERGY
   - Access to clean fuels and technologies for cooking (% of population)

5. DECENT WORK AND ECONOMIC GROWTH
   - GDP per capita, PPP

6. REDUCED INEQUALITY
   - GINI index (0 = perfect equality, 100 = perfect inequality)

7. SUSTAINABLE COMMUNITIES AND INSTITUTIONS
   - Population living in slums (% of urban population)

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* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

* GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

Ranges represent uncertainty intervals.

MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

Calculated for pulmonary cases only.

Includes cases with unknown previous TB treatment history.

Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
HIV prevalence (% of population aged 15–49 years)

Smoking prevalence (% of population aged ≥15 years)

Diabetes prevalence (% of population aged ≥18 years)

Alcohol use disorders, 12 month prevalence (% of population aged ≥15 years)

Health expenditure per capita, PPPb (current international $)

Greater than 10% of total household expenditure or income on health (% of population)

UHC index of essential service coverageb (based on 16 tracer indicators including TB treatment)

Population covered by social protection floors/systems (% of population)

Prevalence of undernourishment (% of population)

Access to clean fuels and technologies for cooking (% of population)

GDP per capita, PPPb (constant 2011 international $)

GINI index (0 = perfect equality, 100 = perfect inequality)

Population living in slums (% of urban population)

Population living below the international poverty line (% of population)

Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

a Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

b GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

GLOBAL TUBERCULOSIS REPORT 2019

Data for all countries and years can be downloaded from www.who.int/tb/data
United Republic of Tanzania

ESTIMATES OF TB BURDEN, 2018

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>142 (67–245)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>40 (19–69)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>1.9 (0.67–3.7)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>22 (10–40)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>16 (7.8–27)</td>
</tr>
</tbody>
</table>

ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 0.97%
- Previously treated cases: 13% (11–15)

TB CASE NOTIFICATIONS, 2018

- Total new and relapse: 74 692
  - % with known HIV status: 99%
  - Pulmonary: 79%
  - % with known previous TB treatment history: 16%
  - % children aged 0–14 years: 16%
  - % women: 53%

UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage: 53% (30–110)
- TB/HIV care in new and relapse TB patients: 28%
- On antiretroviral therapy: 98%

DRUG-RESISTANT TB CARE, 2018

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 70%
  - Previously treated cases: 81%

TREATMENT SUCCESS RATE AND COHORT SIZE

- New and relapse cases registered in 2017: 90% (68 278)
- Previously treated cases, excluding relapse, registered in 2017: 84% (1 250)
- HIV-positive TB cases registered in 2017: 80% (21 369)
- MDR/RR-TB cases started on second-line treatment in 2016: 80% (158)
- XDR-TB cases started on second-line treatment in 2016: 0

TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 22% (20–24)
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 22% (20–24)

TB FINANCING, 2019

- National TB budget (US$ millions): 62
- Funding source: 4% domestic, 24% international, 72% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

- Ranges represent uncertainty intervals.
- MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
- Calculated for pulmonary cases only.
- Includes cases with unknown previous TB treatment history.
- Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

Data for all countries and years can be downloaded from www.who.int/tb/data
NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018

INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE

1. Population living below the international poverty line (% of population)
2. Population covered by social protection floors/systems (% of population)
3. Prevalence of undernourishment (% of population)
4. Access to clean fuels and technologies for cooking (% of population)
5. GDP per capita, PPP (constant 2011 international $)
6. GINI index (0 = perfect equality, 100 = perfect inequality)
7. Population living in slums (% of urban population)
8. UHC index of essential service coverage (based on 16 tracer indicators including TB treatment)
9. Health expenditure per capita, PPPb (current international $)
10. Smoking prevalence (% of population aged ≥15 years)
11. Diabetes prevalence (% of population aged ≥18 years)
12. Alcohol use disorders, 12 month prevalence (% of population aged ≥15 years)
13. HIV prevalence (% of population aged 15–49 years)

Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

a GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage
**Viet Nam**

**ESTIMATES OF TB BURDEN,** 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total TB incidence</strong></td>
<td>174 (111–251)</td>
<td>182 (116–265)</td>
</tr>
<tr>
<td><strong>HIV-positive TB incidence</strong></td>
<td>6 (3.8–8.6)</td>
<td>6.2 (4–9)</td>
</tr>
<tr>
<td><strong>MDR/RR-TB incidence</strong></td>
<td>8.6 (5.4–13)</td>
<td>9.1 (5.7–13)</td>
</tr>
<tr>
<td><strong>HIV-negative TB incidence</strong></td>
<td>11 (6.7–15)</td>
<td>11 (7–16)</td>
</tr>
<tr>
<td><strong>HIV-negative TB mortality</strong></td>
<td>2.2 (1.4–3.2)</td>
<td>2.3 (1.5–3.4)</td>
</tr>
</tbody>
</table>

**ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB,** 2018

- New cases: 3.6% (3.4–3.8)
- Previously treated cases: 17% (17–18)

**TB CASE NOTIFICATIONS, 2018**

- Total new and relapse cases notified: 99,658
- % with rapid diagnostics at time of diagnosis: 20%
- % with known HIV status: 85%
- % pulmonary cases: 80%
- % bacteriologically confirmed cases: 70%
- % children aged 0–14 years: 2%
- % women: 27%
- % men: 71%
- Total cases notified: 101,171

**UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION**

- TB treatment coverage (notified/estimated incidence), 2018: 57% (40–90)
- TB patients facing catastrophic total costs, 2016: 63% (58–67)
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 8% (4–12)

**TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018**

- Patients with known HIV-status who are HIV-positive: 2,902 (3%)
- Patients on antiretroviral therapy: 2,705 (93%)
- Previously treated cases: 100%

**DRUG-RESISTANT TB CARE, 2018**

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 82%
  - Previously treated cases: 100%
- Laboratory-confirmed cases: MDR/RR-TB: 3,126, XDR-TB: 61
- Patients started on treatment: MDR/RR-TB: 3,110, XDR-TB: 198
- MDR/RR-TB cases tested for resistance to second-line drugs: 1,922

**TREATMENT SUCCESS RATE AND COHORT SIZE**

<table>
<thead>
<tr>
<th></th>
<th>SUCCESS</th>
<th>COHORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>New and relapse cases registered in 2017</td>
<td>92%</td>
<td>102,193</td>
</tr>
<tr>
<td>Previously treated cases, excluding relapse, registered in 2017</td>
<td>87%</td>
<td>2,983</td>
</tr>
<tr>
<td>HIV-positive TB cases registered in 2017</td>
<td>79%</td>
<td>3,002</td>
</tr>
<tr>
<td>MDR/RR-TB cases started on second-line treatment in 2016</td>
<td>68%</td>
<td>2,450</td>
</tr>
<tr>
<td>XDR-TB cases started on second-line treatment in 2016</td>
<td>68%</td>
<td>28</td>
</tr>
</tbody>
</table>

**TB PREVENTIVE TREATMENT, 2018**

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 39%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 22% (21–25)

**TB FINANCING, 2019**

- National TB budget (US$ millions): 72
- Funding source: 14% domestic, 24% international, 62% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

- Ranges represent uncertainty intervals.
- MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
- Calculated for pulmonary cases only.
- Includes cases with unknown previous TB treatment history.
- Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

Data for all countries and years can be downloaded from www.who.int/tb/data
**HIV prevalence** (% of population aged 15–49 years)

**Diabetes prevalence** (% of population aged ≥18 years)

**Smoking prevalence** (% of population aged ≥15 years)

**Health expenditure per capita, PPP** (constant 2011 international $)

**Greater than 10% of total household expenditure or income on health** (% of population)

**UHC index of essential service coverage** (based on 16 tracer indicators including TB treatment)

**Population living below the international poverty line** (% of population)

**Population covered by social protection floors/systems** (% of population)

**Prevalence of undernourishment** (% of population)

**Access to clean fuels and technologies for cooking** (% of population)

**GDP per capita, PPP** (constant 2011 international $)

**GINI index** (0 = perfect equality, 100 = perfect inequality)

**Population living in slums** (% of urban population)

---

* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

b GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage
Cambodia

**ESTIMATES OF TB BURDEN, 2018**

<table>
<thead>
<tr>
<th>Incidence</th>
<th>Rate (per 100,000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB</td>
<td>49 (27–77)</td>
</tr>
<tr>
<td>HIV-positive TB</td>
<td>1.1 (0.59–1.7)</td>
</tr>
<tr>
<td>MDR/RR-TB</td>
<td>1 (0.46–1.9)</td>
</tr>
<tr>
<td>HIV-negative TB</td>
<td>3 (1.9–4.5)</td>
</tr>
<tr>
<td>HIV-positive TB</td>
<td>0.38 (0.21–0.6)</td>
</tr>
</tbody>
</table>

**ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018**

- New cases: 1.8% (1.2–2.8)
- Previously treated cases: 8.2% (4–16)

**TB CASE NOTIFICATIONS, 2018**

- Total new and relapse: 28,620
  - % tested with rapid diagnostics at time of diagnosis: 94%
  - % with known HIV status: 53%
  - % pulmonary: 36%
  - % children aged 0–14 years: 45%
  - % women: 45%
  - % men: 45%
- Total cases notified: 28,757

**UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION**

- TB treatment coverage (notified/estimated incidence), 2018: 58% (37–100)
- TB patients facing catastrophic total costs: 7% (4–12)

**TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018**

- Patients with known HIV-status who are HIV-positive: 580 (2%)
  - on antiretroviral therapy: 580 (100%)

**DRUG-RESISTANT TB CARE, 2018**

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 53%
  - Previously treated cases: 36%
- Laboratory-confirmed cases: MDR/RR-TB: 128, XDR-TB: 0
- Patients started on treatment: MDR/RR-TB: 128, XDR-TB: 0

**TREATMENT SUCCESS RATE AND COHORT SIZE**

- New and relapse cases registered in 2017: 94% 34,238
- Previously treated cases, excluding relapse, registered in 2017: 79% 229
- HIV-positive TB cases registered in 2017: 64% 101
- MDR/RR-TB cases started on second-line treatment in 2016: 64% 101
- XDR-TB cases started on second-line treatment in 2016: 64% 101

**TB PREVENTIVE TREATMENT, 2018**

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 79%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 64%

**TB FINANCING, 2019**

- National TB budget (US$ millions): 31
- Funding source: 17% domestic, 23% international, 60% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

- Ranges represent uncertainty intervals.
- MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
- Calculated for pulmonary cases only.
- Includes cases with unknown previous TB treatment history.
- Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
### Indicators in the Sustainable Development Goals Associated with TB Incidence

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Graph</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV prevalence</td>
<td>(% of population aged 15–49 years)</td>
<td><img src="image1.png" alt="Graph" /></td>
<td>SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.</td>
</tr>
<tr>
<td>Diabetes prevalence</td>
<td>(% of population aged ≥18 years)</td>
<td><img src="image2.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Alcohol use disorders, 12 month prevalence</td>
<td>(% of population aged ≥15 years)</td>
<td><img src="image3.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Smoking prevalence</td>
<td>(% of population aged ≥15 years)</td>
<td><img src="image4.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Health expenditure per capita, PPPb</td>
<td>(current international $)</td>
<td><img src="image5.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Greater than 10% of total household expenditure or income on health</td>
<td>(% of population)</td>
<td><img src="image6.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>UHC index of essential service coverageb</td>
<td>(based on 16 tracer indicators including TB treatment)</td>
<td><img src="image7.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Population living below the international poverty line</td>
<td>(% of population)</td>
<td><img src="image8.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Population covered by social protection floors/systems</td>
<td>(% of population)</td>
<td><img src="image9.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Prevalence of undernourishment</td>
<td>(% of population)</td>
<td><img src="image10.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Access to clean fuels and technologies for cooking</td>
<td>(% of population)</td>
<td><img src="image11.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>GDP per capita, PPPb</td>
<td>(constant 2011 international $)</td>
<td><img src="image12.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>GINI index</td>
<td>(0 = perfect equality, 100 = perfect inequality)</td>
<td><img src="image13.png" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Population living in slums</td>
<td>(% of urban population)</td>
<td><img src="image14.png" alt="Graph" /></td>
<td></td>
</tr>
</tbody>
</table>

* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.
* GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage
## Central African Republic

### ESTIMATES OF TB BURDEN,* 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>25 (16–36)</td>
<td>540 (549–771)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>6.6 (4.2–9.4)</td>
<td>141 (91–201)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>0.18 (0.1–0.27)</td>
<td>3.8 (2.2–5.9)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>4.8 (2.8–7.3)</td>
<td>103 (60–157)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>3.1 (2–4.5)</td>
<td>67 (62–97)</td>
</tr>
</tbody>
</table>

### ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 0.4% (0–2.2)
- Previously treated cases: 15% (11–19)

### TB CASE NOTIFICATIONS, 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total new and relapse</td>
<td>10 881</td>
<td>25 (16–36)</td>
</tr>
<tr>
<td>– % tested with rapid diagnostics at time of diagnosis: &lt;1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– % with known HIV status: 79%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– % pulmonary: 79%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– % bacteriologically confirmed*: 64%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– % children aged 0–14 years: 17%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– % women: 35%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– % men: 68%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total cases notified</td>
<td>11 032</td>
<td>25 (16–36)</td>
</tr>
</tbody>
</table>

### UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage (notified/estimated incidence), 2018: 43% (30–67)
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 33% (18–50)

### TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with known HIV-status who are HIV-positive</td>
<td>2 274 (26%)</td>
</tr>
<tr>
<td>– on antiretroviral therapy</td>
<td>1 923 (85%)</td>
</tr>
</tbody>
</table>

### DRUG-RESISTANT TB CARE, 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of bacteriologically confirmed TB cases tested for rifampicin resistance*</td>
<td>1%</td>
</tr>
<tr>
<td>– New cases</td>
<td>1%</td>
</tr>
<tr>
<td>– Previously treated cases</td>
<td>55%</td>
</tr>
<tr>
<td>Laboratory-confirmed cases*: HMDR/RR-TB: 58, XDR-TB: 0</td>
<td></td>
</tr>
<tr>
<td>Patients started on treatment*: HMDR/RR-TB: 58, XDR-TB: 0</td>
<td></td>
</tr>
<tr>
<td>MDR/RR-TB cases tested for resistance to second-line drugs</td>
<td>0</td>
</tr>
</tbody>
</table>

### TREATMENT SUCCESS RATE AND COHORT SIZE

<table>
<thead>
<tr>
<th></th>
<th>SUCCESS</th>
<th>COHORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>New and relapse cases registered in 2017</td>
<td>78%</td>
<td>9 302</td>
</tr>
<tr>
<td>Previously treated cases, excluding relapse, registered in 2017</td>
<td>73%</td>
<td>1 67</td>
</tr>
<tr>
<td>HIV-negative TB cases registered in 2017</td>
<td>74%</td>
<td>2 157</td>
</tr>
<tr>
<td>MDR/RR-TB cases started on second-line treatment in 2016</td>
<td>59%</td>
<td>41</td>
</tr>
<tr>
<td>XDR-TB cases started on second-line treatment in 2016</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

### TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 100%

### TB FINANCING, 2019

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (US$ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National TB budget</td>
<td>2.9</td>
</tr>
<tr>
<td>Funding source:</td>
<td>27% domestic, 41% international, 32% unfunded</td>
</tr>
</tbody>
</table>

Data as are reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

* Ranges represent uncertainty intervals.

* MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

* Calculated for pulmonary cases only.

* Includes cases with unknown previous TB treatment history.

* Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
### Indicators in the Sustainable Development Goals Associated with TB Incidence

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2000</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIV prevalence</strong> (% of population aged 15–49 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Diabetes prevalence</strong> (% of population aged ≥18 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Alcohol use disorders, 12 month prevalence</strong> (% of population aged ≥15 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Smoking prevalence</strong> (% of population aged ≥15 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Health expenditure per capita, PPPb</strong> (current international $)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Greater than 10% of total household expenditure or income on health (% of population)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UHC index of essential service coverageb</strong> (based on 16 tracer indicators including TB treatment)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Data sources: SDG Indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

b GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

---

**Global Tuberculosis Report 2019**

Data for all countries and years can be downloaded from www.who.int/tb/data
Data for all countries and years can be downloaded from www.who.int/tb/data

### ESTIMATES OF TB BURDEN, 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>22 (12–28)</td>
<td>375 (238–543)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>5.7 (2.9–9.4)</td>
<td>108 (55–179)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>0.56 (0.23–1)</td>
<td>11 (4.5–20)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>3 (1.7–4.6)</td>
<td>57 (32–89)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>2.3 (1.2–3.8)</td>
<td>43 (22–72)</td>
</tr>
</tbody>
</table>

### ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 2.4% [1.1–4.2]
- Previously treated cases: 12% [8.7–16]

### TB CASE NOTIFICATIONS, 2018

- Total new and relapse: 10 706
  - % tested with rapid diagnostics at time of diagnosis: 9%
  - % with known HIV status: 19%
  - % pulmonary: 77%
  - % bacteriologically confirmed: 49%
  - % children aged 0–14 years: 8%
  - % women: 40%
  - % men: 52%
- Total cases notified: 10 981

### UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage (notified/estimated incidence), 2018: 54% [18–86]
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 28% [14–44]

### TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

- Patients with known HIV-status who are HIV-positive: 553 (28%)
  - on antiretroviral therapy: 273 (49%)
- Laboratory-confirmed cases: MDR/RR-TB: 61, XDR-TB: 0
- Patients started on treatment: MDR/RR-TB: 47, XDR-TB: 0
- MDR/RR-TB cases tested for resistance to second-line drugs: 0

### TREATMENT SUCCESS RATE AND COHORT SIZE

- New and relapse cases registered in 2017: 66% 10 005
- Previously treated cases, excluding relapse, registered in 2017: 41% 258
- HIV-positive TB cases registered in 2017: 25% 374
- MDR/RR-TB cases started on second-line treatment in 2016: 0
- XDR-TB cases started on second-line treatment in 2016: 0

### TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment

### TB FINANCING, 2019

- National TB budget (US$ millions): <1
- Funding source: 6% domestic, 94% international, 0% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

- Ranges represent uncertainty intervals.
- MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
- Calculated for pulmonary cases only.
- Includes cases with unknown previous TB treatment history.
- Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
**NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018**

- Diabetes
- Harmful use of alcohol
- Smoking
- HIV
- Undernourishment

**INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE**

- **3 Good Health and Well-being**
  - HIV prevalence (% of population aged 15–49 years)
  - Diabetes prevalence (% of population aged ≥18 years)
  - Alcohol use disorders, 12 month prevalence (% of population aged ≥15 years)
  - Smoking prevalence (% of population aged ≥15 years)
  - Health expenditure per capita, PPP
    - (current international $)

- **1 No Poverty**
  - Population living below the international poverty line (% of population)

- **2 Zero Hunger**
  - Population covered by social protection floors/systems (% of population)

- **7 Affordable and Clean Energy**
  - Prevalence of undernourishment (% of population)

- **8 Decent Work and Economic Growth**
  - Access to clean fuels and technologies for cooking (% of population)

- **10 Reduced Inequalities**
  - GDP per capita, PPP
    - (constant 2011 international $)

- **11 Sustainable Cities and Communities**
  - GINI index
    - (0 = perfect equality, 100 = perfect inequality)

- **13 Peace and Justice**
  - Population living in slums (% of urban population)

---

* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

* GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage
## Lesotho

### ESTIMATES OF TB BURDEN,* 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>13 (8.3–18)</td>
<td>611 (395–872)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>8.4 (5.4–12)</td>
<td>398 (257–568)</td>
</tr>
<tr>
<td>MDR/RR-TB incidencea</td>
<td>0.8 (0.47–1.2)</td>
<td>18 (22–58)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>0.95 (0.56–1.4)</td>
<td>45 (27–68)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>3.3 (2.1–4.7)</td>
<td>155 (98–223)</td>
</tr>
</tbody>
</table>

### ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 4.8% (3.7–6)
- Previously treated cases: 14% (9.5–18)

### TB CASE NOTIFICATIONS, 2018

- Total new and relapse: 7 027
  - % tested with rapid diagnostics at time of diagnosis
  - % with known HIV status: 97%
  - % pulmonary: 90%
  - % bacteriologically confirmedd: 67%
  - % children aged 0–14 years: 4%
  - % women: 34%
  - % men: 62%
- Total cases notified: 7 128

### UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage (notified/estimated incidence), 2018: 55% (18–84)
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 34% (18–52)

### TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with known HIV-status who are HIV-positive</td>
<td>4 435 (65%)</td>
</tr>
<tr>
<td>– on antiretroviral therapy</td>
<td>4 077 (92%)</td>
</tr>
</tbody>
</table>

### DRUG-RESISTANT TB CARE, 2018

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 70%
  - Previously treated cases: 65%
- Laboratory-confirmed cases:
- Patients started on treatment:
- MDR/RR-TB cases tested for resistance to second-line drugs: 191

### TREATMENT SUCCESS RATE AND COHORT SIZE

<table>
<thead>
<tr>
<th></th>
<th>SUCCESS</th>
<th>COHORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>New and relapse cases registered in 2017</td>
<td>76%</td>
<td>7 305</td>
</tr>
<tr>
<td>Previously treated cases, excluding relapse, registered in 2017</td>
<td>73%</td>
<td>121</td>
</tr>
<tr>
<td>HIV-positive TB cases registered in 2017</td>
<td>75%</td>
<td>4 949</td>
</tr>
<tr>
<td>MDR/RR-TB cases started on second-line treatment in 2016</td>
<td>77%</td>
<td>222</td>
</tr>
<tr>
<td>XDR-TB cases started on second-line treatment in 2016</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 33%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 51% (47–56)

### TB FINANCING, 2019

- National TB budget (US$ millions): 12
- Funding source: 5% domestic, 39% international, 57% unfunded

---

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding. Estimates of TB incidence and mortality for Lesotho will be reviewed after final results from the national TB prevalence survey are available in 2020.

- Ranges represent uncertainty intervals.
- MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
- Calculated for pulmonary cases only.
- Includes cases with unknown previous TB treatment history.
- Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
### NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018

![Diabetes](image1)
![Harmful use of alcohol](image2)
![Smoking](image3)
![Undernourishment](image4)
![HIV](image5)

### INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE

- **HIV prevalence** (% of population aged 15–49 years)
- **Diabetes prevalence** (% of population aged ≥18 years)
- **Alcohol use disorders, 12 month prevalence** (% of population aged ≥15 years)
- **Smoking prevalence** (% of population aged ≥15 years)
- **Health expenditure per capita, PPP** (current international $)
- **Greater than 10% of total household expenditure or income on health (% of population)**
- **UHC index of essential service coverage** (based on 16 tracer indicators including TB treatment)
- **Population living below the international poverty line (% of population)**
- **Population covered by social protection floors/systems (% of population)**
- **Prevalence of undernourishment (% of population)**
- **Access to clean fuels and technologies for cooking (% of population)**
- **GDP per capita, PPP** (constant 2011 international $)
- **GINI index** (0 = perfect equality, 100 = perfect inequality)
- **Population living in slums (% of urban population)**

---

* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

* GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

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Data for all countries and years can be downloaded from [www.who.int/tb/data](http://www.who.int/tb/data)

GLOBAL TUBERCULOSIS REPORT 2019 237
Data for all countries and years can be downloaded from www.who.int/tb/data

Liberia

**ESTIMATES OF TB BURDEN, 2018**

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>15 (9.6–21) 308 (199–440)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>2.6 (1.7–3.7) 53 (34–76)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>0.39 (0.15–0.72) 8 (1.2–15)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>2.7 (1.6–4.1) 56 (33–85)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>1 (0.67–1.5) 22 (14–33)</td>
</tr>
</tbody>
</table>

**ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018**

- New cases: 2.4% (1.1–4.2)
- Previously treated cases: 15% (11–19)

**TB CASE NOTIFICATIONS, 2018**

- Total new and relapse: 7 808
  - % tested with rapid diagnostics at time of diagnosis: 9%
  - % with known HIV status: 77%
  - % pulmonary: 66%
  - % bacteriologically confirmed: 60%
  - % children aged 0-14 years: 15%
  - % women: 37%
  - % men: 48%
- Total cases notified: 7 824

**UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION**

- TB treatment coverage (notified/estimated incidence), 2018: 53% (37–81)
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 26% (14–41)

**TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018**

- Patients with known HIV-status who are HIV-positive: 1 035 17%
  - on antiretroviral therapy: 686 66%

**DRUG-RESISTANT TB CARE, 2018**

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 23%
  - Previously treated cases: 52%
  - Laboratory-confirmed cases:
    - MDR/RR-TB: 73, XDR-TB: 0
  - Patients started on treatment:
    - MDR/RR-TB: 53, XDR-TB: 0
  - MDR/RR-TB cases tested for resistance to second-line drugs

**TREATMENT SUCCESS RATE AND COHORT SIZE**

- New and relapse cases registered in 2017: 77% 6 907
- Previously treated cases, excluding relapse, registered in 2017: 69% 16
- HIV-positive TB cases registered in 2017: 65% 833
- MDR/RR-TB cases started on second-line treatment in 2016: 73% 74
- XDR-TB cases started on second-line treatment in 2016: 0

**TB PREVENTIVE TREATMENT, 2018**

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 21%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 2% (1.9–2.3)

**TB FINANCING, 2019**

- National TB budget (US$ millions): 7.3
- Funding source: 0% domestic, 23% international, 77% unfunded
**NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018**

![Diagram showing the number of TB cases attributable to five risk factors (Diabetes, Smoking, Harmful use of alcohol, HIV, Undernourishment) for the year 2018.]

**INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE**

- **HIV prevalence** (% of population aged 15–49 years)
- **Diabetes prevalence** (% of population aged ≥18 years)
- **Alcohol use disorders, 12 month prevalence** (% of population aged ≥15 years)
- **Smoking prevalence** (% of population aged ≥15 years)
- **Health expenditure per capita, PPP**
  (current international $)
- **Greater than 10% of total household expenditure or income on health** (% of population)
- **UHC index of essential service coverage**
  (based on 16 tracer indicators including TB treatment)
- **Population living below the international poverty line** (% of population)
- **Population covered by social protection floors/systems** (% of population)
- **Prevalence of undernourishment** (% of population)
- **Access to clean fuels and technologies for cooking** (% of population)
- **GDP per capita, PPP**
  (constant 2011 international $)
- **GINI index** (0 = perfect equality, 100 = perfect inequality)
- **Population living in slums** (% of urban population)

* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.
* GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage
Global Tuberculosis Report 2019

Data for all countries and years can be downloaded from www.who.int/tb/data

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

Ranges represent uncertainty intervals.

MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

Calculated for pulmonary cases only.

Includes cases with unknown previous TB treatment history.

Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
**NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018**

![Chart showing number of TB cases attributable to five risk factors, 2018](chart)

**INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE**

- **HIV prevalence** (% of population aged 15–49 years)
- **Diabetes prevalence** (% of population aged ≥18 years)
- **Alcohol use disorders, 12 month prevalence** (% of population aged ≥15 years)
- **Smoking prevalence** (% of population aged ≥15 years)
- **Health expenditure per capita, PPP**
  - (current international $)
- **Greater than 10% of total household expenditure or income on health** (% of population)
- **UHC index of essential service coverage**
  - (based on 16 tracer indicators including TB treatment)
- **Population living below the international poverty line** (% of population)
- **Population covered by social protection floors/systems** (% of population)
- **Prevalence of undernourishment** (% of population)
- **Access to clean fuels and technologies for cooking** (% of population)
- **GDP per capita, PPP**
  - (constant 2011 international $)
- **GINI index**
  - (0 = perfect equality, 100 = perfect inequality)
- **Population living in slums** (% of urban population)

* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.
* GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

Data for all countries and years can be downloaded from [www.who.int/tb/data](http://www.who.int/tb/data)
Papua New Guinea

ESTIMATES OF TB BURDEN,* 2018

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>37 (30–45)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>2.7 (2.2–3.3)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>2 (1.2–2.9)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>4.5 (3–6.2)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>0.25 (0.1–0.45)</td>
</tr>
</tbody>
</table>

ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 3.4% (1.7–5)
- Previously treated cases: 26% (15–16)

TB CASE NOTIFICATIONS, 2018

Total new and relapse cases notified: 27 887
- % tested with rapid diagnostics at time of diagnosis: 52%
- % with known HIV status: 56%
- % pulmonary: 30%
- % children aged 0–14 years: 24%
- % women: 40%
- % men: 40%
Total cases notified: 29 364

UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2018: 75% (62–92)
TB patients facing catastrophic total costs: 13% (8–18)
TB case fatality ratio (estimated mortality/estimated incidence), 2018: 13% (8–18)

TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

Number

<table>
<thead>
<tr>
<th>NUMBER (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with known HIV-status who are HIV-positive</td>
</tr>
<tr>
<td>- on antiretroviral therapy</td>
</tr>
</tbody>
</table>

DRUG-RESISTANT TB CARE, 2018

% of bacteriologically confirmed TB cases tested for rifampicin resistance:
- New cases
- Previously treated cases
Laboratory-confirmed cases: MDR/RR-TB: 435, XDR-TB: 8
Patients started on treatment: MDR/RR-TB: 401, XDR-TB: 8
MDR/RR-TB cases tested for resistance to second-line drugs: 252

TREATMENT SUCCESS RATE AND COHORT SIZE

New cases registered in 2017: 68% | 26 954
Previously treated cases registered in 2017: 56% | 983
HIV-positive TB cases registered in 2017: 66% | 835
MDR/RR-TB cases started on second-line treatment in 2016: 75% | 236
XDR-TB cases started on second-line treatment in 2016: 63% | 8

TB PREVENTIVE TREATMENT, 2018

% of HIV-positive people (newly enrolled in care) on preventive treatment: 21%
% of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 27% (25–30)

TB FINANCING, 2019

National TB budget (US$ millions): 36
Funding source:
- 52% domestic,
- 25% international,
- 24% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

* Ranges represent uncertainty intervals.
* MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
* Calculated for pulmonary cases only.
* Includes cases with unknown previous TB treatment history.
* Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

Data for all countries and years can be downloaded from www.who.int/tb/data
**NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018**

- Undernourishment
- Diabetes
- HIV
- Harmful use of alcohol
- Smoking

**INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE**

- **HIV prevalence** (% of population aged 15–49 years)
- **Diabetes prevalence** (% of population aged ≥18 years)
- **Alcohol use disorders, 12 month prevalence** (% of population aged ≥15 years)
- **Smoking prevalence** (% of population aged ≥15 years)
- **Health expenditure per capita, PPP**
  - (current international $)
- **Greater than 10% of total household expenditure or income on health** (% of population)
- **UHC index of essential service coverage**
  - (based on 16 tracer indicators including TB treatment)
- **Population covered by social protection floors/systems** (% of population)
- **Prevalence of undernourishment** (% of population)
- **Access to clean fuels and technologies for cooking** (% of population)
- **GDP per capita, PPP**
  - (constant 2011 international $)
- **GINI index**
  - (0 = perfect equality, 100 = perfect inequality)
- **Population living in slums** (% of urban population)
- **Population living below the international poverty line** (% of population)

* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

b GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

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Data for all countries and years can be downloaded from www.who.int/tb/data
Sierra Leone

ESTIMATES OF TB BURDEN, 2018

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100,000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>23 (15–33)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>2.9 (1.9–4.2)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>0.66 (0.26–1.2)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>2.6 (1.5–3.9)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>0.7 (0.44–1)</td>
</tr>
</tbody>
</table>

| POPULATION 2018 | 7.7 MILLION |

ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 2.4% (1.1–4.2)
- Previously treated cases: 15% (11–19)

TB CASE NOTIFICATIONS, 2018

- Total new and relapse: 17,144
- % with known HIV status: 98%
- % pulmonary: 92%
- % bacteriologically confirmed: 65%
- % children aged 0–14 years: 16%
- % women: 53%

TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

- Patients with known HIV-status who are HIV-positive: 13%
- % on antiretroviral therapy: 100%

DRUG-RESISTANT TB CARE, 2018

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases
  - Previously treated cases

LABORATORY-CONFIRMED CASES

- Patients started on treatment: 120
- MDR/RR-TB cases tested for resistance to second-line drugs: 120

TREATMENT SUCCESS RATE AND COHORT SIZE

- New and relapse cases registered in 2017: 90% (15,935)
- Previously treated cases, excluding relapse, registered in 2017: 63% (207)
- HIV-negative TB cases registered in 2017: 82% (1,936)
- MDR/RR-TB cases started on second-line treatment in 2016: 120
- XDR-TB cases started on second-line treatment in 2016: 0

TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 57%
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment

TB FINANCING, 2019

- National TB budget (US$ millions): 9.5
- Funding source: 3% domestic, 71% international, 25% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

- Ranges represent uncertainty intervals.
- MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
- Calculated for pulmonary cases only.
- Includes cases with unknown previous TB treatment history.
- Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

Data for all countries and years can be downloaded from www.who.int/tb/data
**NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018**

**INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE**

- **HIV prevalence** (% of population aged 15–49 years)
- **Diabetes prevalence** (% of population aged ≥18 years)
- **Harmful use of alcohol**
- **Smoking prevalence** (% of population aged ≥15 years)
- **Undernourishment** (% of population)
- **Population living below the international poverty line** (% of population)
- **Population covered by social protection floors/systems** (% of population)
- **Prevalence of undernourishment** (% of population)
- **Access to clean fuels and technologies for cooking** (% of population)
- **GDP per capita, PPP** (constant 2011 international $)
- **GINI index** (0 = perfect equality, 100 = perfect inequality)
- **Population living in slums** (% of urban population)
- **UHC index of essential service coverage** (based on 16 tracer indicators including TB treatment)

* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

**GLOBAL TUBERCULOSIS REPORT 2019** 245
ESTIMATES OF TB BURDEN,* 2018

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>60 (59–66) 346 (225–493)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>36 (23–51) 205 (133–293)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>3.1 (1.6–5) 18 (9.4–29)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>4.8 (2.9–7.3) 28 (16–42)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>13 (8.3–19) 74 (48–107)</td>
</tr>
</tbody>
</table>

ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018

- New cases: 2.8% (2.5–3.1)
- Previously treated cases: 18% (12–26)

TB CASE NOTIFICATIONS, 2018

- Total new and relapse: 35 071
  - % tested with rapid diagnostics at time of diagnosis: 46%
  - % with known HIV status: 95%
  - % pulmonary: 87%
  - % bacteriologically confirmed:
    - % children aged 0–14 years: 6%
    - % women: 32%
    - % men: 62%
  - Total cases notified: 35 922

UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage (notified/estimated incidence), 2018: 58% (41–90)
- TB patients facing catastrophic total costs
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 31% (17–46)

TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

- Patients with known HIV-status who are HIV-positive: 20 202
  - on antiretroviral therapy: 18 421
  - %: 91%

DRUG-RESISTANT TB CARE, 2018

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 98%
  - Previously treated cases: 56%

- Patients started on treatment for MDR/RR-TB: 506
- MDR/RR-TB cases started on second-line treatment: 136

TREATMENT SUCCESS RATE AND COHORT SIZE

- New and relapse cases registered in 2017: 90% 36 010
- Previously treated cases, excluding relapse, registered in 2017: 83% 1 193
- HIV-positive TB cases registered in 2017: 86% 20 362
- MDR/RR-TB cases started on second-line treatment in 2016: 71% 136
- XDR-TB cases started on second-line treatment in 2016: 0

TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment

TB FINANCING, 2019

- National TB budget (US$ millions): 31
- Funding source: 29% domestic, 43% international, 28% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

* Ranges represent uncertainty intervals.
* MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
* Calculated for pulmonary cases only.
* Includes cases with unknown previous TB treatment history.
* Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.
NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018

INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE

HIV prevalence (% of population aged 15–49 years)

Diabetes prevalence (% of population aged ≥18 years)

Smoking prevalence (% of population aged ≥15 years)

Health expenditure per capita, PPPb (current international $)

Greater than 10% of total household expenditure or income on health (% of population)

UHC index of essential service coverageb (based on 16 tracer indicators including TB treatment)

Population living below the international poverty line (% of population)

Population covered by social protection floors/systems (% of population)

Prevalence of undernourishment (% of population)

Access to clean fuels and technologies for cooking (% of population)

GDP per capita, PPPb (constant 2011 international $)

GINI index (0 = perfect equality, 100 = perfect inequality)

Population living in slums (% of urban population)

* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

b GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

Data for all countries and years can be downloaded from www.who.int/tb/data

GLOBAL TUBERCULOSIS REPORT 2019 247
Data as are reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries.

- Ranges represent uncertainty intervals.
- MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.
- Calculated for pulmonary cases only.
- Includes cases with unknown previous TB treatment history.
- Includes patients diagnosed before 2018 and patients who were not laboratory-confirmed.

### Zimbabwe

**ESTIMATES OF TB BURDEN,** 2018

<table>
<thead>
<tr>
<th>NUMBER (thousands)</th>
<th>RATE (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TB incidence</td>
<td>30 (22–39) 210 (155–272)</td>
</tr>
<tr>
<td>HIV-positive TB incidence</td>
<td>19 (14–24) 130 (96–169)</td>
</tr>
<tr>
<td>MDR/RR-TB incidence</td>
<td>1.5 (1.1–2) 10 (7.4–14)</td>
</tr>
<tr>
<td>HIV-negative TB mortality</td>
<td>1.1 (0.69–1.7) 7.7 (4.8–11)</td>
</tr>
<tr>
<td>HIV-positive TB mortality</td>
<td>3.5 (2.6–4.8) 24 (16–33)</td>
</tr>
</tbody>
</table>

**ESTIMATED PROPORTION OF TB CASES WITH MDR/RR-TB, 2018**

- New cases: 3.9% (3.5–4.3)
- Previously treated cases: 14% (8.9–20)

### TB CASE NOTIFICATIONS, 2018

- Total new and relapse: 25 204
- % tested with rapid diagnostics at time of diagnosis: 87%
- % with known HIV status: 94%
- % pulmonary: 89%
- % bacteriologically confirmed: 56%
- % children aged 0–14 years: 6%
- % women: 36%
- % men: 58%
- Total cases notified: 25 775

### UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

- TB treatment coverage (notified/estimated incidence), 2018: 83% (64–110)
- TB patients facing catastrophic total costs, 2018: 80% (74–85)
- TB case fatality ratio (estimated mortality/estimated incidence), 2018: 15% (10–22)

### TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2018

- Patients with known HIV-status who are HIV-positive: 15 062 62%
- on antiretroviral therapy: 13 636 91%

### DRUG-RESISTANT TB CARE, 2018

- % of bacteriologically confirmed TB cases tested for rifampicin resistance:
  - New cases: 91%
  - Previously treated cases: 97%
- Patients started on treatment: MDR/RR-TB: 381, XDR-TB: 3
- MDR/RR-TB cases tested for resistance to second-line drugs

### TREATMENT SUCCESS RATE AND COHORT SIZE

- New and relapse cases registered in 2017: 83% 25 848
- Previously treated cases, excluding relapse, registered in 2017: 83% 553
- HIV-positive TB cases registered in 2017: 82% 16 602
- MDR/RR-TB cases started on second-line treatment in 2016: 57% 488
- XDR-TB cases started on second-line treatment in 2016: 0% 5

### TB PREVENTIVE TREATMENT, 2018

- % of HIV-positive people (newly enrolled in care) on preventive treatment: 30% (27–33)
- % of children (aged <5) household contacts of bacteriologically confirmed TB cases on preventive treatment: 30% (27–33)

### TB FINANCING, 2019

- National TB budget (US$ millions): 61
  - Funding source: <1% domestic, 31% international, 69% unfunded

Data for all countries and years can be downloaded from www.who.int/tb/data
NUMBER OF TB CASES ATTRIBUTABLE TO FIVE RISK FACTORS, 2018

INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE

Data for all countries and years can be downloaded from www.who.int/tb/data

* Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

** GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

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