

# WHO global lists of high burden countries for tuberculosis (TB), TB/HIV and multidrug/rifampicin-resistant TB (MDR/RR-TB), 2021–2025

Background document



World Health  
Organization



WHO global lists of high burden countries for TB, multidrug/rifampicin-resistant TB (MDR/RR-TB) and TB/HIV, 2021–2025

ISBN 978-92-4-002943-9 (electronic version)

ISBN 978-92-4-002944-6 (print version)

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## Introduction

During the period 1998 to 2015, the concept of a “high burden country” (HBC) became familiar and widely used in the context of tuberculosis (TB). The first global list developed by WHO consisted of 22 HBCs with approximately 80% of the world’s TB cases; this was established in 1998. Subsequently two other HBC lists, for HIV-associated TB and multidrug-resistant TB (MDR-TB), were defined.

In 2015, three WHO global lists of HBCs – for TB, TB/HIV and MDR-TB - were in use. With a new era of the Sustainable Development Goals and the End TB Strategy starting in 2016, a thorough review of these three global HBC lists was undertaken by the WHO Global TB Programme in 2015.<sup>1</sup> This included consideration of whether the lists should be modified (and if so how) or whether they should be discontinued. The outcome of the review was the definition of three new global HBC lists for the period 2016–2020: one for TB, one for TB/HIV and one for MDR-TB. It was also agreed that these lists would be reviewed again in 2020.

This background document is about the global HBC lists to be used by WHO from 2021–2025. It is structured in four main parts. The first summarizes the review undertaken in 2015, including the process, the main findings from consultations with stakeholders and the recommendations of WHO’s Strategic and Technical Advisory Group for TB (STAG-TB). The second describes the three global HBC lists that were defined by WHO for 2016–2020. The third explains the updated global lists to be used for the period 2021–2025; these have been defined using the same criteria as those agreed in 2015, in combination with the most recent estimates (for 2019) of the incidence of TB, HIV-associated TB and MDR/rifampicin-resistant TB (MDR/RR-TB)<sup>2</sup> that were published in WHO’s *Global Tuberculosis Report 2020*. Entries to and exits from the current lists are highlighted. The fourth section highlights how regional priority lists can complement the three global HBC lists.

### 1. Review in 2015 that resulted in three new WHO global lists of HBCs for 2016–2020

The WHO Global TB Programme prepared a discussion document on global HBC lists in April 2015. This was circulated across the WHO TB network (HQ, regional and country offices) and to a range of external partner agencies for feedback. An online survey to elicit input from a wide range of stakeholders was run for two weeks in May 2015; this was completed by 323 people, of which 50% were national respondents (national TB programmes, national nongovernmental organizations, civil society representatives, national Ministries of Health or public health agencies) and 34% were respondents from international or technical agencies. The remaining 16% identified themselves as in an “other” category. An updated version of the discussion document and an accompanying presentation were then prepared for consideration at the June 2015 meeting of WHO’s STAG-TB.

### Main findings from stakeholder consultations in 2015

The main findings about whether WHO should continue to use global HBC lists, and their associated advantages and disadvantages, were:

1. There was strong support for continuing the use of global HBC lists. Only 5% of respondents preferred the option of stopping the use of global HBC lists, and none of these respondents was from a national constituency.
2. There was strong agreement that global HBC lists are important to help national TB programmes in HBCs to advocate for political commitment (including funding) from their own governments as well as international funding agencies. This was true overall and for all constituencies.
3. There was strong agreement that global HBC lists are important to prioritize international donor funding and technical assistance for countries where improving TB prevention, diagnosis and treatment is most needed to have a global impact. This was true overall and for all constituencies.

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<sup>1</sup> Use of high burden country lists for TB by WHO in the post-2015 era. Discussion paper initially prepared in April 2015 to facilitate feedback, and finalized after the June 2015 meeting of WHO’s Strategic and Technical Advisory Group for TB (STAG-TB). Available at: [https://www.who.int/tb/publications/global\\_report/high\\_tb\\_burdencountrylists2016-2020.pdf](https://www.who.int/tb/publications/global_report/high_tb_burdencountrylists2016-2020.pdf)

<sup>2</sup> The lists for 2016–2020 were based on the incidence of MDR-TB (i.e. resistance to both isoniazid and rifampicin). Since 2016, following updates to treatment guidelines, WHO has focused on estimates of the incidence of rifampicin-resistant TB, which includes MDR-TB, and referred to these as estimates of MDR/RR-TB. About 80% of people with RR-TB have MDR-TB.

4. There was strong agreement that global HBC lists are important to ensure that countries with a serious TB, TB/HIV or MDR-TB problem are included in the priority lists of international and technical agencies. This was true overall and for all constituencies.
5. There was agreement (most respondents agreed or strongly agreed, with more in the former category) that global HBC lists encourage global and regional monitoring in a consistent set of countries.
6. There was either strong agreement or agreement that countries not in the global HBC lists in use in 2015 may have been relatively neglected by international funding and technical agencies, even when they had a high burden relative to population.

The main findings related to the future design of global HBC lists were:

1. The preferred option was to develop 3 new lists based on new criteria (about 50% of respondents). About 40% favoured updating the lists using the original criteria, and about 15% favoured the development of one list only.
2. The vast majority (about 80%) of respondents favoured lists of between 11 and 30 countries. The remaining 20% were approximately split between a list of 10 or fewer countries, and a list of more than 30 countries.
3. The vast majority (about 85%) of respondents favoured lists that have a lifetime of 3–5 years.
4. The lists should be defined using consistent criteria and have consistent cut-offs in terms of the share of global burden accounted for by the countries in each list.
5. Lists should be defined not only on the basis of a country's absolute number of TB cases but should also include countries with a severe TB burden (e.g. in terms of incidence per 100 000 population per year).

### **Proposal presented by GTB at the WHO STAG-TB meeting in 2015**

Based on feedback from stakeholder consultations, one proposal for three new global HBC lists for the period 2016–2020 was presented by GTB for consideration by WHO's STAG-TB in June 2015.

The proposed lists were defined based on the following principles/design characteristics:

1. The purpose of each list should be stated.
2. The lists (TB, MDR-TB, TB/HIV) should be defined using consistent criteria.
3. The lists should result in similar cut-offs in terms of the share of the global burden accounted for by the countries in the list.
4. The criteria used to define lists should be easy to explain, use and reproduce.
5. The time period (useful life) of the list should be defined.
6. The list should be relatively short (no more than 30 countries).
7. If possible, there should be a clear distinction between countries in and outside the list.

The proposed global lists were characterized as three “20+10” HBC lists: one for each of TB, MDR-TB and TB/HIV, that would have a lifetime of 5 years. Each list included 30 countries, consistently defined as the top 20 in terms of their estimated absolute number of incident cases per year, plus the 10 countries with the most severe burden (e.g. in terms of incidence per 100 000 population per year) that do not already appear in the top 20 (“20+10”).<sup>3</sup> The proposed lists resulted in similar cut-offs (85–89% of the estimated global burden). The lists could be reproduced by anyone based on incidence estimates (for TB, HIV-associated TB and MDR/rifampicin-resistant TB) published in WHO's annual global TB report. The purpose of each list was clearly stated, and in a consistent way for each list. For example, the purpose of the TB list was defined as:

“To provide a focus for global action on TB in the countries where progress is most needed to achieve End TB Strategy and SDG targets and milestones, to help build and sustain national political commitment and funding in the countries with the highest burden in terms of absolute numbers or severity, and to promote global monitoring of progress in a well-defined set of countries.”

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<sup>3</sup> STAG-TB members were also asked for their suggestions, if any, regarding one consolidated list. Their comments were that the diagram shown on **page 3** of this document illustrated why it would be better to have three separate lists, rather than attempting to develop one consolidated list.

## WHO STAG-TB comments and recommendations in 2015

The comments and recommendations at the June 2015 meeting of WHO's STAG-TB were summarized in the meeting report<sup>4</sup> as follows:

“STAG-TB:

- Recognizes the value of high TB burden country (HBC) lists;
- Supports the proposal for WHO to use three “20+10” HBC lists (TB, MDR-TB, TB/HIV) post-2015, which will have a lifetime of 5 years.

STAG-TB recommends that WHO:

- Define the additional 10 countries in all three lists using rates (as opposed to the alternative option of using proportions of cases with HIV co-infection or MDR-TB for the TB/HIV and MDR-TB lists);
- At Regional Office level, consider whether to develop more extended regional lists of HBCs, using consistent methods.”

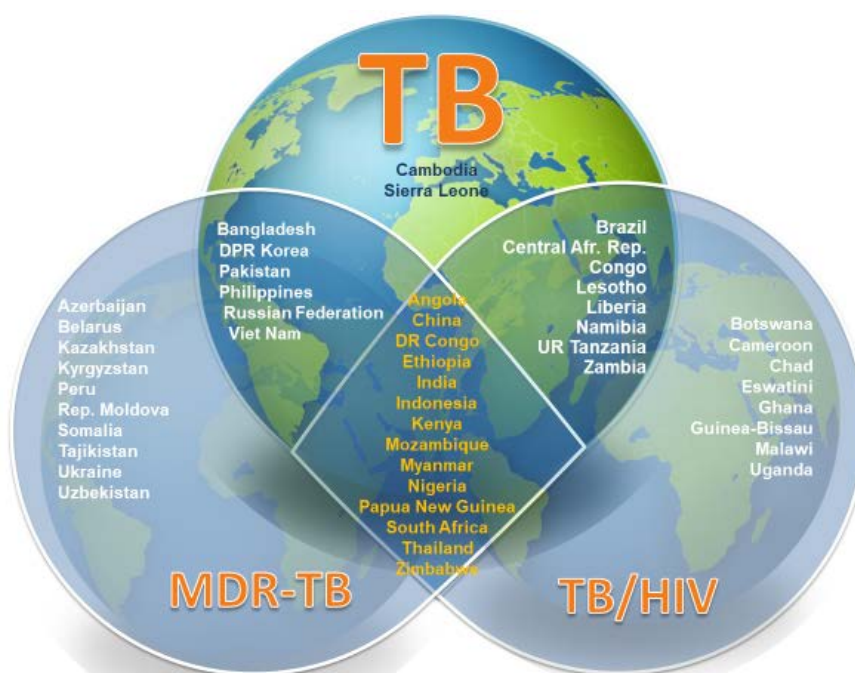
For countries included in lists based on their estimated incidence per 100 000 population per year, STAG-TB also recommended the application of a threshold for a minimum number of cases, to avoid global lists including countries with very small numbers of cases that would fit better within regional HBC lists.

### 2. The three global HBC lists defined by WHO for 2016–2020

Following advice provided at the WHO STAG-TB meeting in 2015, the Global TB Programme finalized the three global HBC lists to be used by WHO during the period 2016–2020. These are shown in **Fig. 1** and **Table 1**.

The minimum thresholds for the annual estimated numbers of cases that were used for countries included in the lists on the basis of their incidence rates per 100 000 population per year were defined as 10 000 per year for TB, and 1000 per year for TB/HIV and MDR-TB. Given overlap, the lists included a total of 48 countries and 14 countries (see central diamond in the figure) were in all three lists.

**Fig. 1: The three global HBC lists for TB, TB/HIV and MDR-TB used by WHO during the period 2016–2020, and their areas of overlap**



<sup>4</sup> See the report of the STAG-TB meeting in 2015 (pp8), available at [https://www.who.int/tb/advisory\\_bodies/stag\\_tb\\_report\\_2015.pdf?ua=1](https://www.who.int/tb/advisory_bodies/stag_tb_report_2015.pdf?ua=1)

**Table 1: The three global lists of high burden countries for TB, TB/HIV and MDR-TB used by WHO during the period 2016–2020**

Countries are listed alphabetically (not in order of their number of incident cases in absolute terms or per capita)

List	The 30 high TB burden countries		The 30 high TB/HIV burden countries		The 30 high MDR-TB burden countries	
<b>Purpose and target audience</b>	To provide a focus for global action on TB in the countries where progress is most needed to achieve End TB Strategy and SDG targets and milestones, to help build and sustain national political commitment and funding in the countries with the highest burden in terms of absolute numbers or severity, and to promote global monitoring of progress in a well-defined set of countries.		To provide a focus for global action on HIV-associated TB in the countries where progress is most needed to achieve End TB Strategy, UNAIDS and SDG targets and milestones, to help build and sustain national political commitment and funding in the countries with the highest burden in terms of absolute numbers or severity, and to promote global monitoring of progress in a well-defined set of countries.		To provide a focus for global action on the MDR-TB crisis in the countries where progress is most needed to achieve End TB Strategy targets and milestones, to help build and sustain national political commitment and funding in the countries with the highest burden in terms of absolute numbers or severity, and to promote global monitoring of progress in a well-defined set of countries.	
<b>Definition</b>	The 20 countries with the highest estimated numbers of incident TB cases, plus the top 10 countries with the highest estimated TB incidence rate that are not in the top 20 by absolute number (threshold, >10 000 estimated incident TB cases per year).		The 20 countries with the highest estimated numbers of incident TB cases among people living with HIV, plus the top 10 countries with the highest estimated TB/HIV incidence rate that are not in the top 20 by absolute number (threshold, >1000 estimated incident TB/HIV cases per year).		The 20 countries with the highest estimated numbers of incident MDR/RR-TB cases, plus the top 10 countries with the highest estimated MDR/RR-TB incidence rate that are not in the top 20 by absolute number (threshold, >1000 estimated incident MDR-TB cases per year).	
<b>Countries in the list, based on 2014 estimates of the incidence of TB, HIV-associated TB and MDR-TB published in the 2015 WHO global TB report</b>	<i>The top 20 by estimated absolute number (in alphabetical order):</i> Angola Bangladesh Brazil China Democratic People's Republic of Korea Democratic Republic of Congo Ethiopia India Indonesia Kenya Mozambique Myanmar Nigeria Pakistan Philippines Russian Federation South Africa Thailand United Republic of Tanzania Viet Nam	<i>The additional 10 by estimated incidence rate per 100 000 population per year and with a minimum number of 10 000 cases per year (in alphabetical order):</i> Cambodia Central African Republic Congo Lesotho Liberia Namibia Papua New Guinea Sierra Leone Zambia Zimbabwe	<i>The top 20 by estimated absolute number (in alphabetical order):</i> Angola Brazil Cameroon China Democratic Republic of Congo Ethiopia India Indonesia Kenya Lesotho Malawi Mozambique Myanmar Nigeria South Africa Thailand Uganda United Republic of Tanzania Zambia Zimbabwe	<i>The additional 10 by estimated incidence rate per 100 000 population per year, and with a minimum of 1000 incident cases per year (in alphabetical order):</i> Botswana Central African Republic Chad Congo Ghana Guinea-Bissau Liberia Namibia Papua New Guinea Swaziland	<i>The top 20 by estimated absolute number (in alphabetical order):</i> Bangladesh China Democratic People's Republic of Korea Democratic Republic of Congo Ethiopia India Indonesia Kazakhstan Kenya Mozambique Myanmar Nigeria Pakistan Philippines Russian Federation South Africa Thailand Ukraine Uzbekistan Viet Nam	<i>The additional 10 by estimated rate per 100 000 population per year, and with a minimum of 1000 incident cases per year (in alphabetical order):</i> Angola Azerbaijan Belarus Kyrgyzstan Papua New Guinea Peru Republic of Moldova Somalia Tajikistan Zimbabwe
<b>Share of global incidence in 2014</b>	83%	3%	84%	5%	80%	5%
<b>Lifetime of list</b>	5 years (review criteria and included countries in 2020).		5 years (review criteria and included countries in 2020).		5 years (review criteria and included countries in 2020).	



Since the definition of the three new global HBC lists, WHO has given specific attention to the 30 high TB burden countries in its monitoring of the status of the TB epidemic and progress in implementation and financing of response efforts. For example, in the 2016, 2017, 2018, 2019 and 2020 editions of WHO's Global TB Report, the major chapters included many graphs and tables that focused on or gave particular attention to the 30 high TB burden countries. Where estimates of disease burden and assessment of progress in the response were for HIV-associated TB or MDR/RR-TB specifically, these reports gave specific attention to countries in the other two lists. Infographic-style profiles for the 48 countries in at least one of the three lists have been produced since 2018, and from 2015–2019 Annex 2 of the report provided a two-page profile for each of the 30 high TB burden countries (in 2020, these profiles were moved to a Global TB Report app and are also available online, along with identical profiles for all other countries).

Other examples of how WHO has given specific attention to HBCs at global level include:

- End TB Strategy Summits. These have been held annually since 2016, bringing together participants from the 30 high TB burden countries and representatives from a range of technical and financial partners to discuss the status of progress and specific high-priority topics.
- High-level dialogue. In 2019, the Director-General wrote to the Heads of State of the 48 countries included in at least one of the 3 HBC lists (**Fig. 1**) to urge accelerated action to reach global TB targets. This was done in follow-up to the first UN high-level meeting on TB held in September 2018. High-level missions to countries by senior WHO leadership have prioritized high TB burden countries.
- The DG Flagship Initiative Find.Treat.All #EndTB. This has given particular attention to high TB burden countries.
- Advocacy efforts. In follow-up to the UN high-level meeting on TB, a new campaign “Race to End TB” was launched in high TB burden countries.

### **3. The three global HBC lists to be used by WHO in the period 2021–2025**

The redesign of WHO global lists of HBCs for the period 2016–2020 followed an extensive consultation process and no concerns with the criteria or the lists were expressed by Member States to WHO during this period. Following consultations across the WHO TB network (including all WHO Regional Offices) in 2020 and with WHO's current STAG-TB in February 2021,<sup>5</sup> three updated lists will be used in the period 2021–2025. **The updated lists have been defined using the same criteria as those agreed in 2015 combined with the latest estimates (for 2019) of the incidence of TB, HIV-associated TB and MDR/RR-TB published by WHO in the *Global Tuberculosis Report 2020*.** The new lists are shown in **Fig. 2** and **Table 2**.

The changes compared with the previous lists for 2016–2020 (**Fig. 1, Table 1**) can be summarized as follows:

#### **The 30 high TB burden countries – 3 new entries and 3 exits**

- Gabon, Mongolia and Uganda added.
- Cambodia, the Russian Federation and Zimbabwe removed.

#### **The 30 high TB/HIV burden countries – 4 new entries and 4 exits**

- Gabon, Guinea, Philippines and the Russian Federation added.
- Angola, Chad, Ghana and Papua New Guinea removed.

#### **The 30 high MDR/RR-TB burden countries - 3 new entries and 3 exits**

- Mongolia, Nepal and Zambia added.
- Ethiopia, Kenya and Thailand removed.

Overall, three countries will no longer appear in a global HBC list: Cambodia, Chad and Ghana.

Four countries will be new inclusions in a global HBC list: Gabon, Guinea, Mongolia and Nepal.

Graphical illustrations of the estimates of incidence from which the top 20 and top 10 are identified are provided in **Appendix 1**.

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<sup>5</sup> The current membership is 15 people serving in an individual capacity, none of whom were part of the group in 2015.

**Table 2: The global lists of high burden countries for TB, TB/HIV and MDR/RR-TB to be used by WHO in the period 2021–2025**

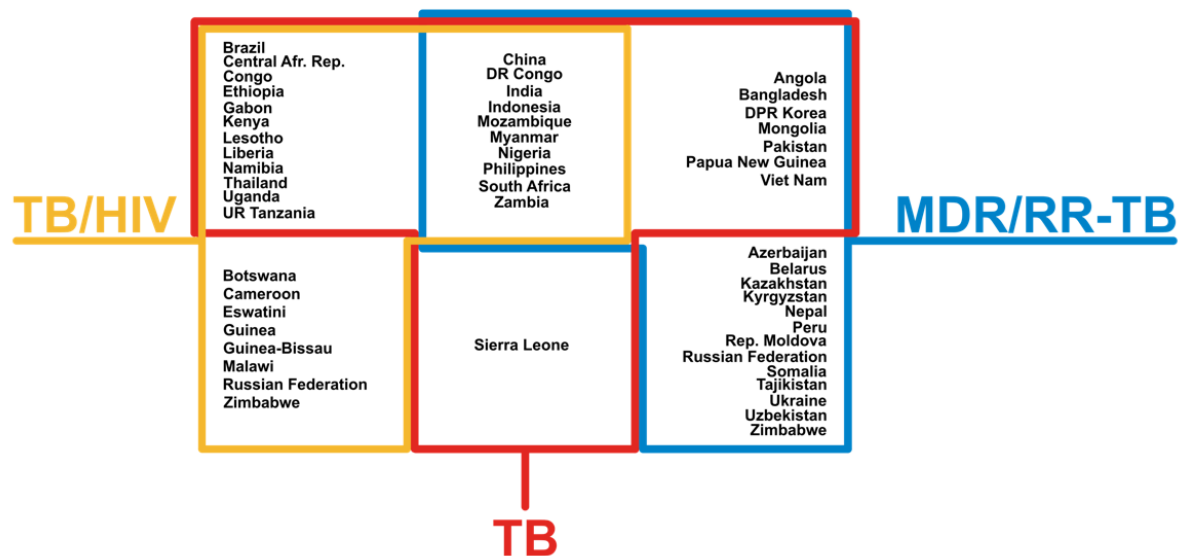
The lists are based on the same criteria as those used in 2015, combined with the latest (2019) estimates of the incidence of TB, HIV-associated TB and MDR/RR-TB published in WHO's *Global Tuberculosis Report 2020*

Countries are listed alphabetically (not in order of their number of incident cases in absolute terms or per capita)

List	The 30 high TB burden countries		The 30 high TB/HIV burden countries		The 30 high MDR/RR-TB burden countries	
<b>Purpose and target audience</b>	To provide a focus for global action on TB in the countries where progress is most needed to achieve the targets and milestones set in the WHO End TB Strategy, the political declaration of the UN high-level meeting on TB held in 2018 and the SDGs, to help build and sustain national political commitment and funding in the countries with the highest burden in terms of absolute numbers or severity, and to promote global monitoring of progress in a well-defined set of countries.		To provide a focus for global action on HIV-associated TB in the countries where progress is most needed to achieve targets and milestones set in the WHO End TB Strategy, the political declaration of the UN high-level meeting on TB held in 2018, the UNAIDS global strategy for HIV/AIDS and the SDGs, to help build and sustain national political commitment and funding in the countries with the highest burden in terms of absolute numbers or severity, and to promote global monitoring of progress in a well-defined set of countries.		To provide a focus for global action on the public health crisis of drug-resistant TB in the countries where progress is most needed to achieve targets and milestones set in the WHO End TB Strategy and the political declaration of the UN high-level meeting on TB held in 2018, to help build and sustain national political commitment and funding in the countries with the highest burden in terms of absolute numbers or severity, and to promote global monitoring of progress in a well-defined set of countries.	
<b>Definition</b>	The 20 countries with the highest estimated numbers of incident TB cases, plus the top 10 countries with the highest estimated TB incidence rate that are not in the top 20 by absolute number (threshold, >10 000 estimated incident TB cases per year).		The 20 countries with the highest estimated numbers of incident TB cases among people living with HIV, plus the top 10 countries with the highest estimated TB/HIV incidence rate that are not in the top 20 by absolute number (threshold, >1000 estimated incident TB/HIV cases per year).		The 20 countries with the highest estimated numbers of incident MDR/RR-TB cases, plus the top 10 countries with the highest estimated MDR/RR-TB incidence rate that are not in the top 20 by absolute number (threshold, >1000 estimated incident MDR/RR-TB cases per year).	
<b>Countries in the list, based on 2019 estimates of the incidence of TB, HIV-associated TB and MDR/RR-TB published in the 2020 WHO global TB report</b>	<i>The top 20 by estimated absolute number (in alphabetical order):</i> Angola Bangladesh Brazil China Democratic People's Republic of Korea Democratic Republic of Congo Ethiopia India Indonesia Kenya Mozambique Myanmar Nigeria Pakistan Philippines South Africa Thailand Uganda United Republic of Tanzania Viet Nam	<i>The additional 10 by estimated incidence rate per 100 000 population per year and with a minimum number of 10 000 cases per year (in alphabetical order):</i> Central African Republic Congo Gabon Lesotho Liberia Mongolia Namibia Papua New Guinea Sierra Leone Zambia	<i>The top 20 by estimated absolute number (in alphabetical order):</i> Brazil Cameroon China Democratic Republic of Congo Ethiopia India Indonesia Kenya Malawi Mozambique Myanmar Nigeria Philippines Russian Federation South Africa Thailand Uganda UR Tanzania Zambia Zimbabwe	<i>The additional 10 by estimated incidence rate per 100 000 population per year, and with a minimum of 1000 incident cases per year (in alphabetical order):</i> Botswana Central African Republic Congo Eswatini Gabon Guinea Guinea-Bissau Lesotho Liberia Namibia	<i>The top 20 by estimated absolute number (in alphabetical order):</i> Angola Bangladesh China Democratic People's Republic of Korea Democratic Republic of Congo India Indonesia Kazakhstan Mozambique Myanmar Nigeria Pakistan Peru Philippines Russian Federation Somalia South Africa Ukraine Uzbekistan Viet Nam	<i>The additional 10 by estimated rate per 100 000 population per year and with a minimum of 1000 incident cases per year (in alphabetical order):</i> Azerbaijan Belarus Kyrgyzstan Mongolia Nepal Papua New Guinea Republic of Moldova Tajikistan Zambia Zimbabwe
<b>Share of global incidence in 2019</b>	84%	2.3%	83%	5.3%	86%	3.7%
<b>Lifetime of list</b>	5 years (review criteria and included countries in 2025).		5 years (review criteria and included countries in 2025).		5 years (review criteria and included countries in 2025).	



**Fig. 2: The three global HBC lists for TB, TB/HIV and MDR/RR-TB to be used by WHO during the period 2021–2025, and their areas of overlap**



Following feedback on earlier versions of this document, the Global TB Programme will give continue to give specific attention to the countries that are exiting the global list of high TB burden countries (Cambodia, the Russian Federation, Zimbabwe), considering them as part of a “global TB watchlist”.<sup>6</sup>

It should be highlighted that the context of the COVID-19 pandemic was considered prior to finalizing the updated global HBC lists. In particular, an assessment of whether the impact of the pandemic on TB incidence could plausibly affect the countries included in each list was done. Based on this analysis, it was concluded that it was unlikely that the COVID-19 pandemic would change the countries included in each list. Further details are available from the Global TB Programme upon request. An additional justification (as commented during the review by STAG-TB) is that it will take time for concrete data (as opposed to modelling projections) about the impact of COVID-19 on TB incidence to become available, such that it is preferable to proceed with the updating of global HBC lists based on the evidence already available.

It is also worth noting that future editions of the WHO global TB report will include a tabular categorization or graphical illustration of all countries in terms of estimated TB incidence per 100 000 population per year. This will be updated each year (in contrast to the lifetime of five years for the global HBC lists) and used to highlight countries that have made progress in terms of moving from one category to a lower one, as well as to give some attention to low-incidence countries. A tabular classification based on estimates of TB incidence per 100 000 population per year is provided in **Appendix 2**. Such a classification and its updating on an annual basis was unanimously supported during the STAG-TB review of an earlier version of this document in February 2021.

<sup>6</sup> The Global TB Programme will also consider whether it would be useful to flag countries that are of particular concern (for example based on evidence about the impact of the COVID-19 pandemic, or based on evidence of an increasing TB incidence rate) via this concept of a global watchlist, during the period up to the next update of global HBC lists.

#### 4. Complementing global HBC lists with regional priority lists

In line with the STAG-TB recommendation provided in 2015 (p3), additional countries can be given priority attention at regional level.

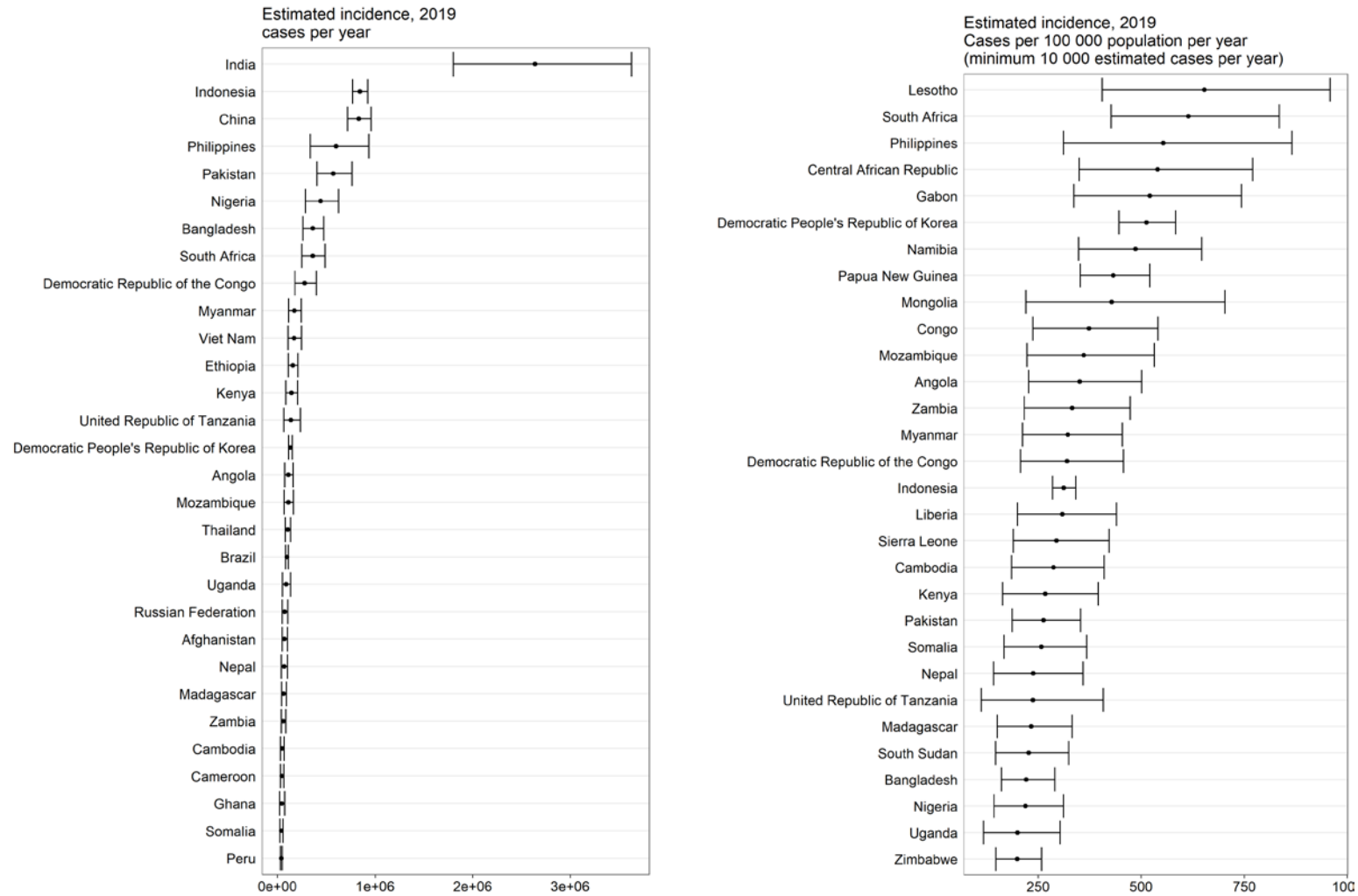
Three WHO regional offices currently use regional priority lists for TB:

- **Region of the Americas:** There are 12 priority countries out of a total of 35 WHO Member States in the region. They are defined as countries with an estimated absolute number of incident cases of more than 10 000 per year and an incidence rate of more than 45 per 100 000 population per year. The priority countries are Argentina, Bolivia, Brazil, Colombia, Dominican Republic, El Salvador, Guyana, Haiti, Mexico, Panama, Peru and Venezuela.
- **European Region:** There are 18 priority countries out of a total of 55 in the region. They are defined as the countries that account for 85% of the regional TB burden and 99% of the regional MDR/RR-TB burden (in terms of the absolute number of cases per year). The priority countries are Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, the Republic of Moldova, Romania, the Russian Federation, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan.
- **Western Pacific Region:** There are currently seven priority countries out of a total of 36 countries and territories in the region. They are Cambodia, China, Lao People's Democratic Republic, Mongolia, Papua New Guinea, Philippines and Viet Nam, which collectively account for >95% of the regional TB burden (in terms of the absolute number of cases per year). This list is also being updated in 2021, to include the top 5 countries in terms of absolute numbers of cases and the top 5 additional countries in terms of incidence per 100 000 population per year (applying a threshold of at least 100 cases per year). The priority countries are Cambodia, China, Kiribati, Lao People's Democratic Republic, Marshall Islands, Micronesia, Mongolia, Papua New Guinea, Philippines and Viet Nam. Both the current and updated lists ensure that Cambodia, while exiting the global TB HBC list, is still prioritized at regional level.

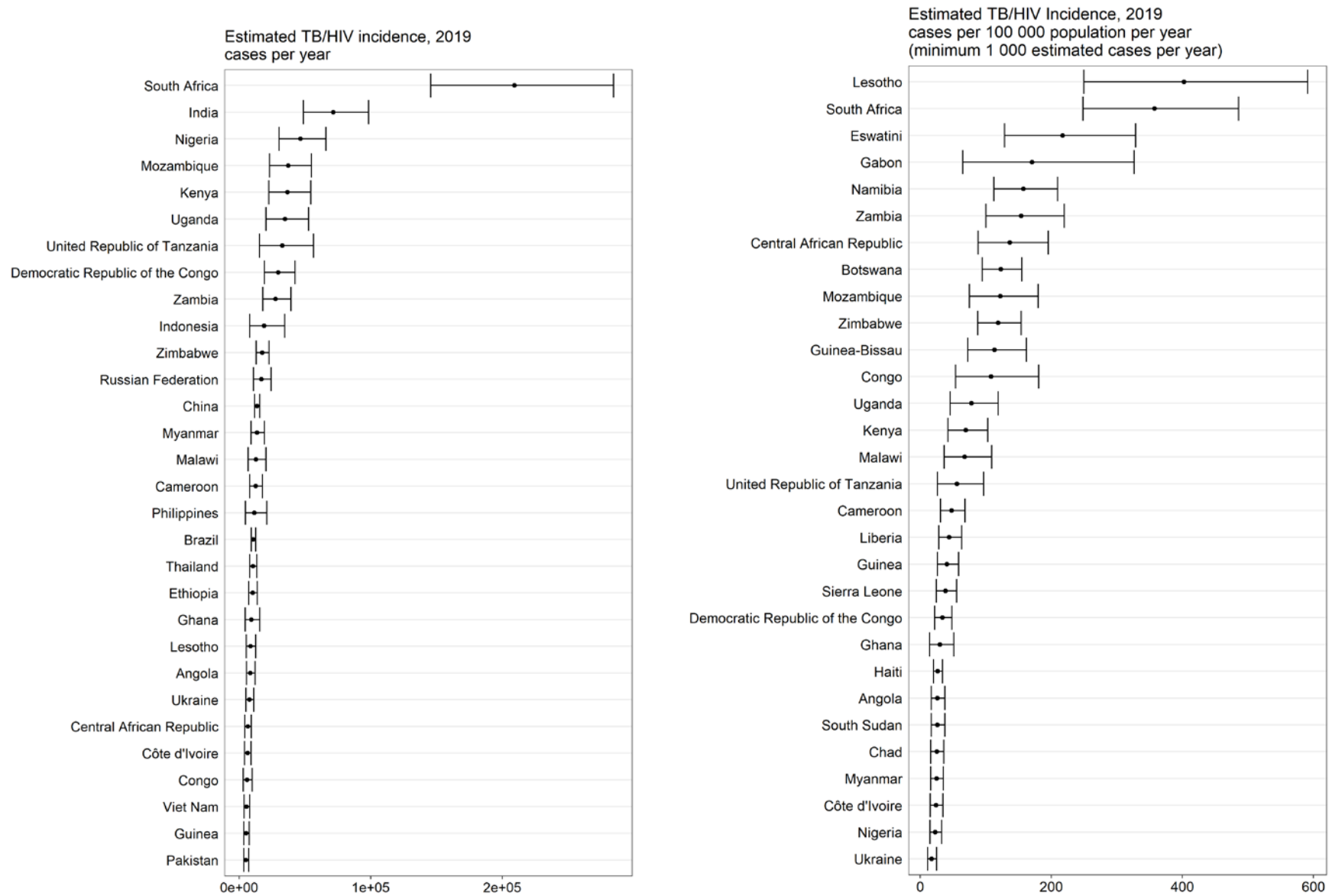
As in the STAG-TB review of 2015, feedback received during the review by STAG-TB in February 2021 included that it would be preferable to ensure that the criteria used to define regional priority lists are aligned as much as possible with the criteria used to define the global HBC lists. It was also acknowledged that some region-specific customization may be necessary, for example due to the varying number of Member States among WHO regions (which ranges from 11 in the South-East Asia Region to 55 in the European Region).

## Appendix 1: Estimates of the incidence of TB, HIV-associated TB and MDR/RR-TB in 2019

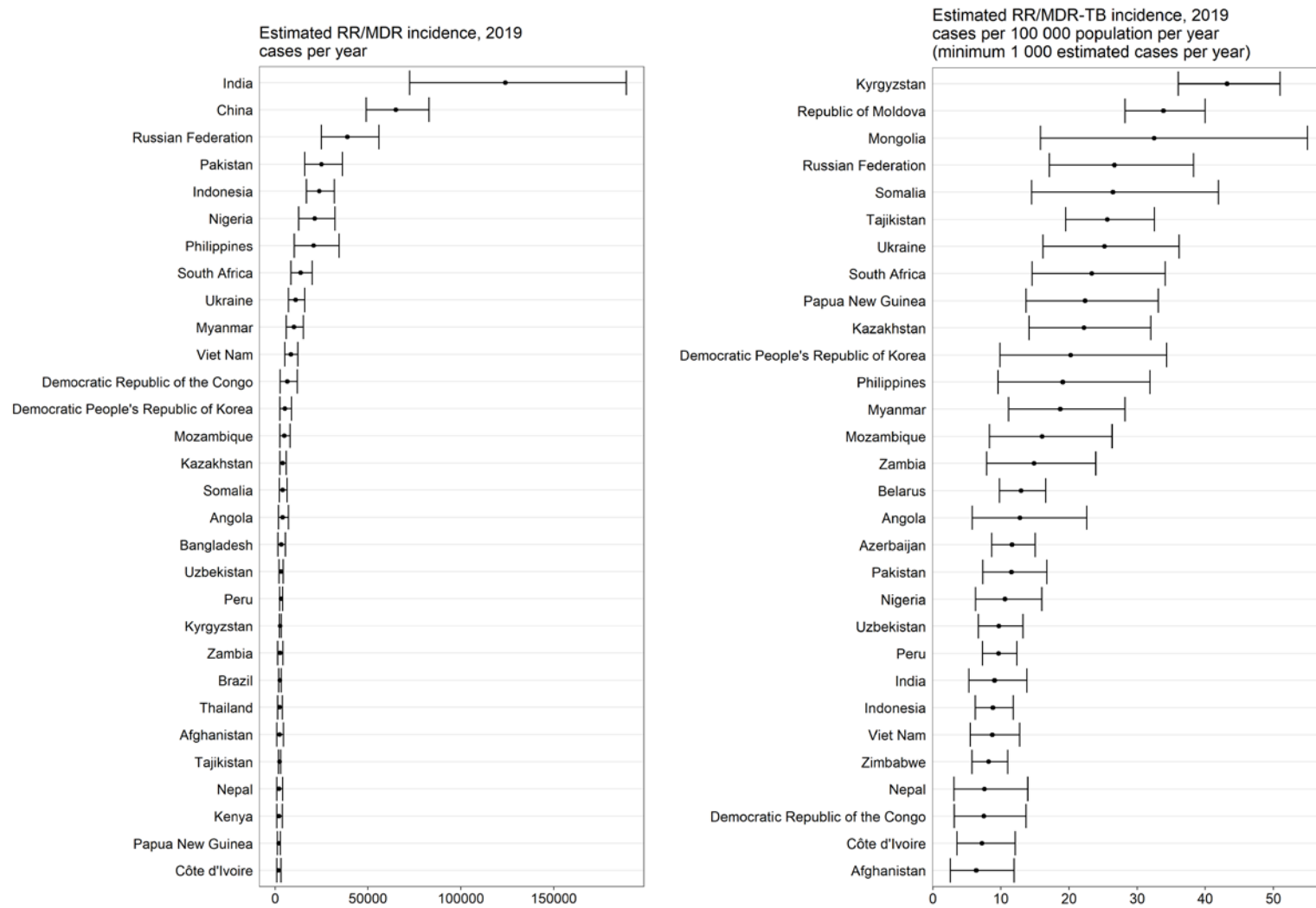
Fig. A1: Top 30 countries in terms of absolute numbers and rates: TB, based on incidence estimates for 2019



**Fig. A2: Top 30 countries in terms of absolute numbers and rates: TB/HIV, based on incidence estimates for 2019**



**Fig. A3: Top 30 countries in terms of absolute numbers and rates: MDR/RR-TB, based on incidence estimates for 2019**



## Appendix 2. Categorization of all countries based on TB incidence per 100 000 population per year

In 2015, it was noted in the final version of the WHO discussion paper on global HBC lists that:

“Several reviewers of earlier drafts of this document also commented that it would be very helpful to categorize countries in terms of their TB burden (e.g. high, medium, low, using for example the TB incidence rate per capita), and to present... (this categorization) in annual global TB reports. Such a categorization would be all-inclusive and also allow progress to be illustrated as countries graduate from one category to another.”<sup>7</sup>

A tabular or graphical categorization will be included for the first time in the 2021 edition of the WHO global TB report, and subsequently updated on an annual basis (in contrast to the global HBC lists that have a lifetime of 5 years). Countries that have transitioned from one category to another in the most recent year will be highlighted.

Following consultations with regional offices, the categorization that will be used is based on TB incidence rates, as follows:

- severely endemic ( $\geq 500$  new and relapse cases per 100 000 population per year);
- highly endemic (300–499 new and relapse cases per 100 000 population per year);
- endemic (100–299 new and relapse cases per 100 000 population per year);
- upper-moderate (50–99 new and relapse cases per 100 000 population per year);
- lower-moderate (10–49 new and relapse cases per 100 000 population per year);
- low ( $< 10$  new and relapse cases per 100 000 population per year).

This categorization is aligned with a categorization included in the WHO Western Pacific Regional Office’s (WPRO) *Regional framework for TB, 2021–2030*.

The “low-incidence” category corresponds to the group of countries considered in the TB elimination framework published by WHO in 2014.<sup>8</sup> This framework set out how the End TB Strategy could be adapted in countries with an incidence of  $< 10$  per 100 000 population per year,<sup>9</sup> with the aim of making progress to “pre-elimination” (defined as  $< 1$  incident case per 100 000 population per year) and then to elimination of TB as a public health problem (defined as  $< 1$  incident case per million population per year). The low-incidence category can also be used to inform decisions about which countries to consider for inclusion in global or regional initiatives and projects relate to “TB elimination”. For example, these could include countries in the category of  $< 10$  incident cases per 100 000 population per year as well a few countries with best estimates that are around the threshold of 10 incident cases per 100 000 population per year (e.g. Costa Rica). The WHO Global TB Programme is updating the WHO TB Elimination Framework in 2021.

**Table A2.1** illustrates how countries would be categorized according to estimates of TB incidence for 2019 that were published in the *Global Tuberculosis Report 2020*, and the number of countries and the collective share of the global TB burden (in terms of the absolute number of incident cases) accounted for by each category.

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<sup>7</sup> Use of high burden country lists for TB by WHO in the post-2015 era. Discussion paper initially prepared in April 2015 to facilitate feedback, and finalized after the June 2015 meeting of WHO’s Strategic and Technical Advisory Group for TB (STAG-TB). See pp6. Available at: [https://www.who.int/tb/publications/global\\_report/high\\_tb\\_burden\\_country\\_lists\\_2016-2020.pdf](https://www.who.int/tb/publications/global_report/high_tb_burden_country_lists_2016-2020.pdf)

<sup>8</sup> Towards tuberculosis elimination: an action framework for low-incidence countries. WHO, 2014. Available at [https://www.who.int/tb/publications/elimination\\_framework/en/](https://www.who.int/tb/publications/elimination_framework/en/)

<sup>9</sup> The framework used the equivalent definition of  $< 100$  incident cases per million population per year.

**Table A2.1. Epidemiological categorization of countries and territories based on incidence per 100 000 population per year in 2019**

Incidence category	Countries included, by WHO region	Number of countries and category share (%) of the total estimated number of incident TB cases globally in 2019
Severely endemic (≥500 new and relapse cases per 100 000 population per year)	<u>Africa</u> Central African Republic, Gabon, Lesotho, South Africa <u>South-East Asia</u> Democratic People's Republic of Korea <u>Western Pacific</u> Philippines	n=6 11%
Highly endemic (300–499 new and relapse cases per 100 000 population per year)	<u>Africa</u> Angola, Congo, Democratic Republic of the Congo, Eswatini, , Guinea-Bissau, Liberia, Mozambique, Namibia, Zambia <u>South-East Asia</u> Indonesia, Myanmar, Timor-Leste <u>Western Pacific</u> Kiribati, Marshall Islands, Mongolia, Papua New Guinea	n=16 17%
Endemic (100–299 new and relapse cases per 100 000 population per year)	<u>Africa</u> Botswana, Burundi, Cameroon, Chad, Côte d'Ivoire, Equatorial Guinea, Ethiopia, Gambia, Ghana, Guinea, Kenya, Madagascar, Malawi, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, South Sudan, Uganda, United Republic of Tanzania, Zimbabwe <u>Americas</u> Bolivia (Plurinational State of), Haiti, Peru <u>Eastern Mediterranean</u> Afghanistan, Djibouti, Pakistan, Somalia <u>Europe</u> Greenland, Kyrgyzstan <u>South-East Asia</u> Bangladesh, Bhutan, India, Nepal, Thailand <u>Western Pacific</u> Cambodia, Lao People's Democratic Republic, Micronesia (Federated States of), Nauru, Northern Mariana Islands, Tuvalu, Viet Nam	n=42 55%
Upper-moderate (50-99 new and relapse cases per 100 000 population per year)	<u>Africa</u> Algeria, Benin, Eritrea, Mali, Mauritania, Niger, Rwanda <u>Americas</u> El Salvador, Guyana <u>Eastern Mediterranean</u> Libya, Morocco, Sudan <u>Europe</u> Azerbaijan, Georgia, Kazakhstan, Republic of Moldova, Romania, Russian Federation, Tajikistan, Ukraine, Uzbekistan <u>South-East Asia</u> Sri Lanka <u>Western Pacific</u> Brunei Darussalam, China, China Hong Kong SAR, China Macao SAR, Fiji, Guam, , Malaysia, Republic of Korea, Solomon Islands	n=31 12%
Lower-moderate (10-49 new and relapse cases per 100 000 population per year)	<u>Africa</u> Burkina Faso, Cabo Verde, Comoros, Mauritius, Seychelles, Togo <u>Americas</u> Anguilla, Argentina, Bahamas, Belize, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Sint Maarten (Dutch part), Suriname, Trinidad and Tobago, Turks and Caicos Islands, Uruguay, Venezuela (Bolivarian Republic of) <u>Eastern Mediterranean</u> Bahrain, Egypt, Iran (Islamic Republic of), Iraq, Kuwait, Lebanon, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, Yemen <u>Europe</u> Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Estonia, Latvia, Lithuania, Malta, Montenegro, North Macedonia, Poland, Portugal, Serbia, Turkey, Turkmenistan <u>South-East Asia</u> Maldives <u>Western Pacific</u> Cook Islands, French Polynesia, Japan, Palau, Samoa, Singapore, Tokelau, Tonga, Vanuatu, Wallis and Futuna Islands	n=67 3%
Low (<10 new and relapse cases per 100 000 population per year)	<u>Americas</u> Antigua and Barbuda, Aruba, Barbados, Bermuda, British Virgin Islands, Canada, Cayman Islands, Cuba, Curaçao, Grenada, Jamaica, Montserrat, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, United States of America <u>Eastern Mediterranean</u> Jordan, occupied Palestinian territory including east Jerusalem, Oman, United Arab Emirates <u>Europe</u> Andorra, Austria, Belgium, Croatia, Cyprus, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Luxembourg, Monaco, Netherlands, Norway, San Marino, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland <u>Western Pacific</u> American Samoa, Australia, New Caledonia, New Zealand, Niue	n=53 0.5%





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