WHO UNICEF Immunization Coverage Estimates 2025 revision

(*released 15 July 2026*)

The WHO and UNICEF estimates of national immunization coverage aim to describe the performance of routine childhood immunization programmes. Estimates are based on data and information available to WHO and UNICEF as of 21 June 2026.

The data are available from WHO (https://immunizationdata.who.int/) and UNICEF (https://data.unicef.org/topic/child-health/immunization/) websites.

Interactive country profiles can be found here:
https://worldhealthorg.shinyapps.io/wuenic-trends.

An explanation of how to interpret the country profiles is also available:
https://www.who.int/publications/m/item/guide-how-to-read-a-country.

Additional country and regional analytical products are available here:
https://data.unicef.org/resources/immunization/

METHODOLOGY

Each year WHO and UNICEF jointly review reports submitted by Member States to both agencies—mainly through the Joint Reporting Form on Immunization (eJRF) for annual data collection—regarding national immunization coverage, finalized survey reports as well as data from the published and grey literature. Based on these data, with due consideration to potential biases and the views of local experts, WHO and UNICEF attempt to distinguish between situations where the available empirical data accurately reflect immunization system performance and those where the data are likely to be compromised and present a misleading view of immunization coverage while jointly estimating the most likely coverage levels for each country for each year since 1980.

WHO and UNICEF estimates are country-specific; that is to say, each country's data are reviewed individually, and data are not borrowed from other countries in the absence of data. Estimates are not based on *ad hoc* adjustments to reported data; in some instances, empirical data are available from a single source, usually the nationally reported coverage data. In cases where no data are available for a given country/vaccine/year combination, data are considered from earlier and later years and interpolated (or extrapolated) to estimate coverage for the missing year(s). In cases where data sources are mixed and show large variation, an attempt is made to

identify the most likely estimate with consideration of the possible biases in available data.

Response levels from countries remains high, with 188 of 195 reports from WHO/UNICEF Member States received; 185 with coverage data (representing 95% of the global birth cohort), as of 21 June 2026. For countries that did not report data by 21 June 2026, estimates for 2025 reflect an extrapolation from the prior year's coverage data.

WHO and UNICEF estimates are produced for the following 15 vaccine-dose combinations BCG, the first and third doses of diphtheria, tetanus toxoid and pertussis containing vaccine (DTP1 and DTP3), the first and second or third doses (depending on number of doses recommended in national schedule) of the inactivated polio vaccine (IPV1 and IPVC), the first and the second doses of measles containing vaccine (MCV1 and MCV2), the first dose of rubella containing vaccine (RCV1), the third dose of hepatitis B containing vaccine (HepB3), birth dose of hepatitis B vaccine (HepBB), the third dose of *Haemophilus influenzae* type b containing vaccine (Hib3), the second or third dose (depending on number of doses recommended in national schedule) of pneumococcal conjugate vaccine (PCVC)), the second or third dose of rotavirus vaccine depending on number of doses recommended in national schedule (RotaC), yellow fever vaccine for countries at risk where vaccination is recommended (YFV) and meningococcal A conjugate vaccine (MengA) for countries located in the meningitis belt of sub-Saharan Africa where vaccine is recommended.

Estimates are made from the first-year empirical data are available, except for IPV1, for which estimates started in 2015 and for IPVC, for which estimates started in 2021. A detailed explanation of the estimation methods is provided in following four publications:

Burton A, Monasch R, Lautenbach B, Gacic-Dobo M, Neill M, Karimov R, Wolfson L, Jones G, Birmingham M. WHO and UNICEF estimates of national infant immunization coverage: methods and processes. Bull World Health Organ. 2009;87(7):535-41.

Burton A, Kowalski R, Gacic-Dobo M, Karimov R, Brown D. A Formal Representation of the WHO and UNICEF Estimates of National Immunization Coverage: A Computational Logic Approach. PLoS ONE 2012;7(10): e47806. doi:10.1371/journal.pone.0047806

Brown D, Burton A, Gacic-Dobo M, Karimov R An Introduction to the Grade of Confidence in the WHO and UNICEF Estimates of National Immunization Coverage The Open Public Health Journal, 2013, 6, 73-76

Danovaro-Holliday MC, Gacic-Dobo M, Diallo MS, Murphy P, Brown DW.

Compliance of WHO and UNICEF estimates of national immunization coverage (WUENIC) with Guidelines for Accurate and Transparent Health Estimates Reporting (GATHER) criteria. Gates Open Res. 2021;5:77. doi: 10.12688/gatesopenres.13258.1. eCollection 2021

Coverage estimates for global, regional and other country groupings

Aggregated estimates by global, regional and other country groupings are weighted WUENIC estimates based on population estimates provided by the United Nations Population Division (UNPD):

- BCG and HepBB: Live births
- MCV2: Estimated number of children aged 2 when the dose is recommended in the second year of life, or on the estimated denominator of the minimum age at which MCV2 is recommended (for example if recommended between 4-6 years of age, the estimated population of children aged 4 is used to weight the MCV2 contribution of that country)
- All other antigens: Surviving infants, except MengA in countries where the dose is administered during the second year of life.

The population estimate time-series data are published by the UNPD every two years as part of the World Population Prospects (WPP) with a release date usually taking place during June/July. The current WUENIC release uses the WPP 2024 revision.

All countries are included in global and regional calculations. Countries for which a WUENIC estimate is not produced (usually because the vaccine has not been introduced or reporting has not started) are included in the calculation using a value of zero for the estimate. There are three exceptions to this:

- BCG: Includes countries that recommend BCG universally in the first year of life (usually at birth)
- Yellow Fever (YFV): Includes countries that are in the list of countries at risk of yellow fever for the calendar year in question. The list is annually updated and can be found here: https://iris.who.int/bitstream/handle/10665/272408/9789241513661-eng.pdf?ua=
- Meningococcal A conjugate vaccine (MengA): Includes 26 countries that are located in the meningitis belt of sub-Saharan Africa. This list can be found here: https://www.who.int/publications/i/item/9789241516860

Calculation of number of un- and under-vaccinated children

The estimated numbers of un- and under-vaccinated children provide a regional and global approximation to call attention to countries with large numbers of unprotected children, including those with high vaccination coverage and large birth cohorts.

The number of infants who are un- and under-vaccinated are estimated by country, region and globally by applying WUENIC coverage to the target population from the latest available release of the UN population estimates.

The term “zero-dose children” refers to those who have not received any dose of DTP-containing vaccine, as per the IA20230 Monitoring and Evaluation Framework[1]

For example, the calculation of zero-dose prevalence is as follows:

- 100 - WUENIC for DTP1 = Zero-dose prevalence

This is then applied to the target population to derive the number of zero-dose children:

- (Zero-dose prevalence / 100) x UN estimates of surviving infants = # zero-dose children

The numbers of zero-dose children are reported rounded to the nearest thousand.

Caution: Estimates do not correct retrospectively for any catch-up doses, therefore coverage for the cohorts might be underestimated, thus the number of un- and under vaccinated for years before 2025 might have declined. Exceptionally, estimates were revised for the Democratic People’s Republic of Korea. The country was able to track birth cohorts missed due to vaccine shortages, and when vaccines were received, they vaccinated missed cohorts and updated the reported official data. In 2025, in addition to data for 2024, the country provided revised data for 2023, 2022 and 2021. Thus, their estimates are based on reported data, exceptionally including late vaccination.

Disclaimer

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Vaccine-dose estimated coverage values should be interpreted alongside the descriptive text that accompanies each data point.

VACCINES ADDED MODIFIED OR REMOVED TO THE ESTIMATION PRODUCTION CYCLE

The number of vaccine-dose combinations added modified or removed since the first release of the WHO and UNICEF estimates of national immunization coverage is shown below with detailed notes in the following sections.

Summary table of the evolution vaccine-dose combination for which WHO and UNICEF estimates are produced

[1] https://www.immunizationagenda2030.org/images/documents/IA2030_Annex_FrameworkForActionv04.pdf

1999	2005	2010	2014	2016	2017	2023	2025
BCG	BCG	BCG	BCG	BCG	BCG	BCG	BCG
DTP3	DTP3	DTP3	DTP3	DTP3	DTP3	DTP3	DTP3
POLIO3	POLIO3	POLIO3	POLIO3	POLIO3	POLIO3	POLIO3	~~POLIO3~~
MCV1	MCV1	MCV1	MCV1	MCV1	MCV1	MCV1	MCV1
HEPB3	HEPB3	HEPB3	HEPB3	HEPB3	HEPB3	HEPB3	HEPB3
	DTP1	DTP1	DTP1	DTP1	DTP1	DTP1	DTP1
	HIB3	HIB3	HIB3	HIB3	HIB3	HIB3	HIB3
		PCV3	PCV3	PCV3	PCV3	PCV3	PCV (LAST)
		ROTA (LAST)	ROTA (LAST)	ROTA (LAST)	ROTA (LAST)	ROTA (LAST)	ROTA (LAST)
		YFV	YFV	YFV	YFV	YFV	YFV
			MCV2	MCV2	MCV2	MCV2	MCV2
			HEPBB	HEPBB	HEPBB	HEPBB	HEPBB
				RCV	RCV	RCV	RCV
					IPV1	IPV1	IPV1
						IPV2	IPV (LAST)
						MENG-A	MENG-A
(5)	(7)	(10)	(12)	(13)	(14)	(16)	(15)

IN 2026 FOR WUENIC 2025 REVISION, POL3 AND IPV2 WERE REMOVED AND REPLACED WITH IPVC (2ND OR 3RD DOSE OF PRIMARY DOSES BASED ON IMMUNIZATION SCHEDULE) FOR ALL COUNTRIES. PCV3 WAS REPLACED WITH PCVC (2ND OR 3RD DOSE DEPENDING ON IMMUNIZATION SCHEDULE)

Second dose of measles containing vaccine

Beginning with the 2013 revision (completed in July 2014), WHO and UNICEF produce coverage estimates for the **second dose of measles containing vaccine** (MCV2) from 2000 onwards for countries where a second dose is recommended in the national immunization schedule for universal use and where empirical data are available for at least one year since introduction in the schedule. In the 2025 Revision, MCV2 estimates are produced for 193 WHO/UNICEF Member States.

Coverage estimates for MCV2 are produced for the age cohort according to the administration recommended in national immunization schedule of each country. Global and regional coverage estimates are produced for vaccinations by the nationally recommended age. Of the 193 countries for which MCV2 estimates are produced, 136 administer this dose in the second year of life. As not all nationally representative household surveys include children aged 24-35 months, the cohort most appropriate for measuring MCV2 coverage, MCV2 coverage estimates are often informed by nationally reported coverage data.

Hepatitis B birth dose

Beginning with the 2013 revision (completed in July 2014), WHO and UNICEF produce coverage estimates for the **hepatitis B birth dose** from 2000 onwards for countries where the vaccine dose is recommended in the national immunization schedule for universal use and where empirical data are available for at least one year since introduction in the schedule.

Hepatitis B birth dose (HepBB) estimates are produced for doses given within 24 hours after birth. WHO and UNICEF started to separate out reported coverage given in 24 hours and HepB birth dose total (doses given within and after 24 hours of birth) for performance year 2016 onwards. An assumption is made that countries who were able to distinguish birth doses from late doses as of 2016 were able to do so prior to this performance year. Currently, survey results for HepBB are scant and in many instances the surveys either do not appropriately collect or report on the strict timing for administration. Estimates are made only for countries able to distinguish doses administered within first 24 hours of life. WHO and UNICEF estimates for HepBB may well be overestimated, especially for countries with low rates of institutionalized births.

In the 2025 Revision, HepBB estimates are produced for 111 Member States.

Inactivated polio vaccine

WHO and UNICEF began producing estimates of inactivated polio vaccine (IPV) coverage in 2015 following the Global Polio Eradication Initiative recommendation to introduce at least one full dose, or two fractional doses, of IPV into routine immunization programmes before the global withdrawal of type 2 oral polio vaccine (OPV). The global switch from trivalent OPV to bivalent OPV in 2016 removed the type 2 component to reduce the risk of circulating vaccine-derived poliovirus type 2 (cVDPV2) and vaccine-associated paralytic polio. SAGE subsequently recommended at least two IPV doses (full or fractional) in 2018 – 2019, and since 2022 all countries are recommended to include $\geqslant$2 IPV doses in their routine schedules.[2]

Beginning with the 2023 revision (completed in 2024), WHO and UNICEF introduced IPV2 estimates for countries using both IPV and OPV, starting from 2021 in line with the 2020 SAGE recommendation for a second IPV dose to strengthen protection against all polioviruses, including vaccine-derived type 2 poliovirus.

Beginning with the 2025 revision (completed in 2026), WHO and UNICEF replaced IPV2 with IPVC, defined as coverage with the second or third dose of an IPV-containing vaccine, depending on the nationally recommended primary schedule. IPVC is produced for all countries regardless of OPV use and provides a harmonized measure of completion of the primary IPV-containing series. Given the increasing diversity of

[2] Polio vaccines: WHO position paper – June 2022: https://www.who.int/publications/i/item/WHO-WER9725-277-300

vaccination schedules, the combined Polio3 indicator has also been discontinued. For historical trend analyses, DTP3 may be used as a proxy.

Because of global IPV supply shortages during 2016–2017, several countries introduced fractional IPV doses. Where coverage for both fractional doses was reported, WHO and UNICEF generally used coverage for the second fractional dose as the IPV1 estimate.

In 2025, six countries used fractional IPV schedules: Bangladesh, Cuba, Ecuador, India, Nepal and Sri Lanka. In Cuba, Ecuador and Nepal, where the interval between the two fractional doses is long, IPV1 reflects the first fractional dose and IPVC the second. In Bangladesh, India and Sri Lanka, where the interval is short, IPV1 reflects the second fractional dose; in India, IPVC corresponds to the third fractional dose.

Meningococcal A conjugate vaccine

Beginning with the 2023 revision (completed in July 2024), WHO and UNICEF produce coverage estimates for at least one dose of **meningococcal A conjugate vaccine** (MengA) from 2016 onwards for countries where at least one dose of meningococcal A conjugate vaccine is recommended in the national infant schedule and who reported data to WHO and UNICEF. **WHO and UNICEF produce global/regional average coverage estimates for countries located in the meningitis belt of sub-Saharan Africa.** In the 2025 Revision, MengA estimates are produced for 15 of 26 Member States in the meningitis belt.

Rubella-containing vaccine

Beginning with the 2015 revision, WHO and UNICEF produce coverage estimates for **rubella-containing vaccine** for those countries where the vaccine is included in the national immunization schedule. Estimates are made for the entire time series from 1980. The approach taken to estimate coverage for rubella containing vaccine is as follows:

- If rubella-containing vaccine is recommended in year Y and rubella containing vaccine is administered with the *first* dose of measles-containing vaccine (MCV1), then the estimate for rubella containing vaccine for year Y is equal to the estimated coverage for MCV1 in year Y.
- If rubella-containing vaccine is recommended in year Y and rubella-containing vaccine is administered with the *second* dose of measles-containing vaccine (MCV2), then the estimate for rubella containing vaccine for year Y is equal to the estimated coverage for MCV2 in year Y.

- When a rubella combination vaccine is introduced and reported coverage represents partial year introduction, the estimate is annualized to the entire target population of the year of introduction.

Global and regional average estimates have been produced for rubella-containing vaccine since the 2015 revision. In the 2025 Revision, RCV1 estimates are produced for 180 Member States.

Country response to the Joint Reporting Form on Immunization, 2026 (data for 2025)

Reported immunization service delivery performance data were received through the Joint Reporting Form on Immunization by 21 June 2026 from 188 of 195 WHO/UNICEF Member States; 185 included coverage data.

List of WHO and UNICEF member states with no reported coverage data submitted as of 21 June 2026.

- Argentina
- Antigua and Barbuda
- Grenada
- Israel
- Luxembourg*
- Monaco*
- Morocco*
- Singapore
- United States of America
- Vietnam

* eJRF reported by the 21 June 2026 but no coverage data provided

SUMMARY OF WUENIC VALUES FOR THE THIRD DOSE OF DTP CONTAINING VACCINE

The table below provides a summary of WUENIC for DTP3 for 2025. WUENIC was equal to the reported coverage in 2025 for two-thirds countries (131 countries) and was equal to the prior year's estimated coverage level due to absent reported data for an additional 10 countries. WUENIC was lower than reported coverage for 44 countries and was greater than reported coverage for 10 countries.

Summary of WUENIC values for the third dose of DTP containing vaccine, 2025

WUENIC = reported coverage	**131 (67%)** countries --- **25** countries with reported data that are supported by a survey within the last 5 years (not necessarily supportive of the 2025 coverage level, however) (Bangladesh, Cameroon, Congo, Comoros, Eritrea, Ethiopia, Ghana, Guinea, Equatorial Guinea, Jamaica, Kyrgyzstan, Lesotho, Malawi, Malaysia, Niger, Nepal, Pakistan, Rwanda, Senegal, Eswatini, Togo, Tunisia, Uganda, Vanuatu, Zimbabwe) --- **66** countries for which there have been no surveys since 2000 (cohort year) and thus no data other than reported data on which to base WUENIC. Many if not most of these countries are high or upper middle-income countries.

WUENIC < reported coverage	44 (23%) countries; --- 23 countries with >10%-point difference, --- 11 with ≥5% and ≤10% -point difference --- 10 with < 5% -point difference
WUENIC > reported coverage	10 (5%) countries; --- 4 countries with >10%-point difference (Botswana, Guinea-Bissau, Marshall Islands, Solomon Islands) --- 4 with ≥5% and ≤10% -point difference (Fiji, Kenya, Mauritania, Zambia) --- 2 with small differences <5%
WUENIC 2025 = WUENIC 2024 due to no reported 2025 DTP3 coverage data	10 (5%) countries (Argentina, Antigua and Barbuda, Grenada, Israel, Luxembourg, Morocco, Monaco, Singapore, United States, Viet Nam)

Rules for survey inclusion / exclusion

Final survey reports that were either publicly reported and available or those received from countries by the WHO and UNICEF working group by 21 June 2026 were included in the 2025 revision of the WUENIC, sent to countries for review and comment.

Typically, new surveys identified between the draft and final estimates are not included in the current revision. The purpose for this restriction of including survey data between the draft and final estimates is to hold true to a general principle not to make changes in underlying input data or working group decisions that the Member States have not seen. If a country replied to the draft WUENIC with information on survey results to consider, then the survey results were included in the final report if the survey report included a methods description in addition to the survey coverage estimates.

As in the past, only surveys with final reports are considered for inclusion. Past experiences with coverage survey results that changed between preliminary and final reports dictate the importance of this restriction. In addition, preliminary survey results often present vaccination coverage estimates based on the combination of respondent recall and documented evidence but not by documented evidence alone, making recall bias adjustment for multidose antigens impossible. If preliminary survey results are available, they are noted in the right-side explanatory text in the country reports.

Countries for which new surveys were included for the 2025 WUENIC revision:

18 new finalized surveys (for 16 countries) received (10 used, for 10 countries) [8 not used for various reasons noted in the text of the country profile for each country], including one DHS and two MICS reports.

Demographic and Health Survey (DHS)

1: Tajikistan 2023

The 2024 revision exceptionally used 7 DHS Key Indicator Reports as the full report were not available and it was thought unlikely for the final report to become available. By the 2025 revision, the full reports for six of these seven surveys became available. These reports included results for two age cohorts and allowed multidose antigen coverage estimates to be adjusted for recall bias (Angola 2023-2024, DRC 2023-2024, Malawi 2023-2024, Mali 2023, Nigeria 2023-2024 and Zambia 2024).

Multiple Indicator Cluster Survey (MICS)

2: Kazakhstan 2024, Nepal 2024-2025

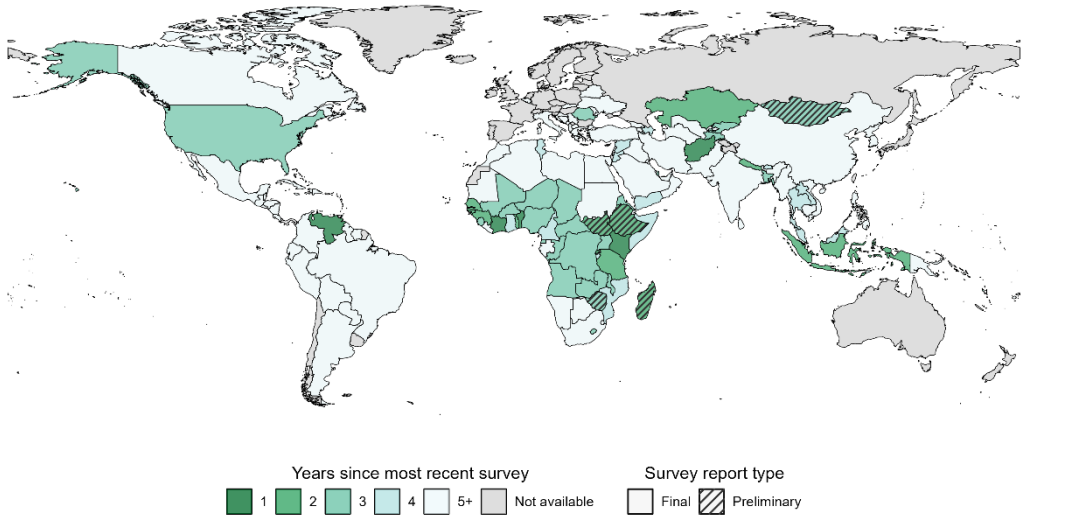
Other coverage surveys including vaccination coverage (used)

7: Afghanistan 2025, Cote d'Ivoire 2025, Ghana 2025, Guinea-Bissan 2025, Kenya 2025 (PCCS), Togo 2024 and USA 2022-2024

Other coverage surveys including vaccination coverage (not used, reasons documented)

8: Benin 2024, Benin 2025, Gambia 2025 (PCCS), Guinea-Bissau 2023, Indonesia 2025, Liberia 2025 (PCCS), Peru 2025, Venezuela 2025

Figure 1. Years since most recent survey with vaccination coverage estimates



Source: WHO/UNICEF estimates of national immunization coverage, 2025 revision
Notes: Calculated based on number of years between 12-23m survey cohort year and 2025. Surveys without standard age cohorts not included.
Preliminary results do not directly inform the WUENIC estimates, but are noted in the comments.
This map is stylized and based on an approximate scale. It does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers.

Additional data sources:

Estimated population data from the UN Population Division[3] are used as one of the inputs utilized in the review of country data and when the working group considers uncertainty in the WHO and UNICEF estimates. The 2025 WUENIC revision (published in July 2026) used the *2024 revision of the* ***World Population Prospect*** *from the* United Nations Population Division for estimating the Grade of Confidence (GoC) in each WUENIC estimate and for calculations of regional and global vaccination coverage figures.

The World Population Prospect 2024 was published on 11 July 2024 and replaced the 2022 revision. World Population Prospects 2024 takes into consideration the fullest range of demographic evidence available to date, referencing data from 1,910 censuses, 79 more than in the 2022 revision, as well as information on births and deaths from civil registration and vital statistics systems for 169 countries and demographic indicators from 3,189 surveys. Population data from censuses or registers referring to 2019 or later were available for 114 countries and areas, representing 48 per cent of the 237 countries and areas included in this analysis (and 54 per cent of the world population). For 100 countries and areas, the most recent available population count was from the period 2009–2018. For the remaining 23 countries and areas, the most recent available census data were from before 2009, that is, more than 15 years ago. Civil registration and vital statistics systems are the preferred source of information for computing statistics on levels and trends in the fertility and mortality of a population, and for estimating changes in the size of a population and in its distribution by age and sex between censuses. Information on births and deaths from civil registration and vital statistics systems was available for 169 countries. Additionally, demographic indicators derived from 3,189 surveys (423 more than in the 2022 revision), were considered in the present evaluation. Among the 236 countries and areas with 1,000 inhabitants or more in 2023, all but 40 had available data on fertility collected in 2019 or later. For 2023, 35 countries and areas had total fertility and age-specific fertility data and an additional 6 countries had data on the number of births. More details can be found here:
https://population.un.org/wpp/

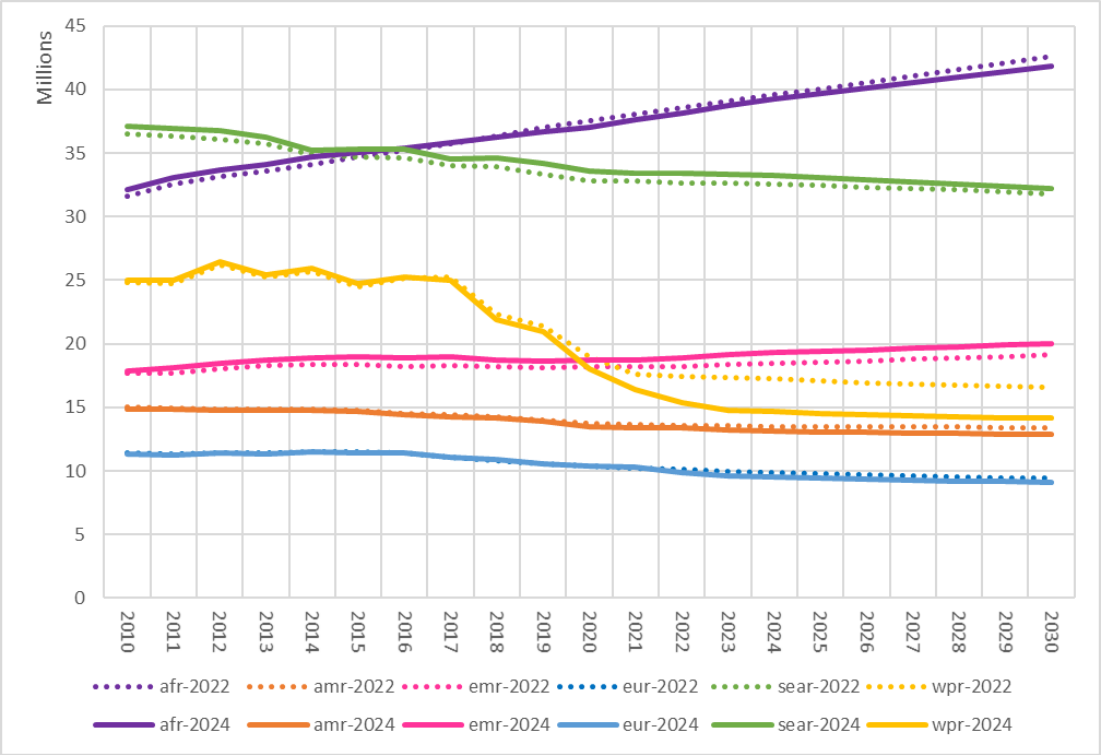
In December 2025, UNPD issued a country-specific interim population update for Togo only. UNPD confirmed that this update does not affect estimates for any other

[3] United Nations, Department of Economic and Social Affairs, Population Division (2024). *World Population Prospects 2024, Online Edition*.
https://www.un.org/development/desa/pd/https%3A//www.un.org/development/desa/pd/world-population-prospects-2024

country. The interim update did not include updated estimates of live births or surviving infants.

As with most revisions, estimates of live births and surviving infants changed compared to previous years, and also the projections for the future were updated. A larger increase in surviving infants than previously estimated was observed for the WHO Eastern Mediterranean Region (Figure 2). The changes in target population estimates had no effect for global DTP3 coverage than if calculations had utilized data from the 2022 revision; the changes in target population estimates result in 1 percentage point lower regional average DTP3 coverage for the Eastern Mediterranean Region.

Figure 2. Estimated number of surviving infants by WHO region, 2022 and 2024 revisions, 2010-2030



Direct communications with country teams between WUENIC Draft and Finalization

WHO and UNICEF encourage countries to review and comment on the country reports shared following the draft production. In past years, regional or sub-regional consultations have been held during May/June to go through select country data and estimates. During the 2025 revision cycle, WHO and UNICEF held a conference call consultation with the country teams from Haiti and Kazakhstan. In addition, calls were held with UNICEF and WHO country and regional teams in relation to Azerbaijan, Laos, Myanmar and Nicaragua.

PROCESS UPDATES SINCE WUENIC 2024 REVISION:

During the WUENIC 2024 revision, the following key rule changes were made by the Working Group:

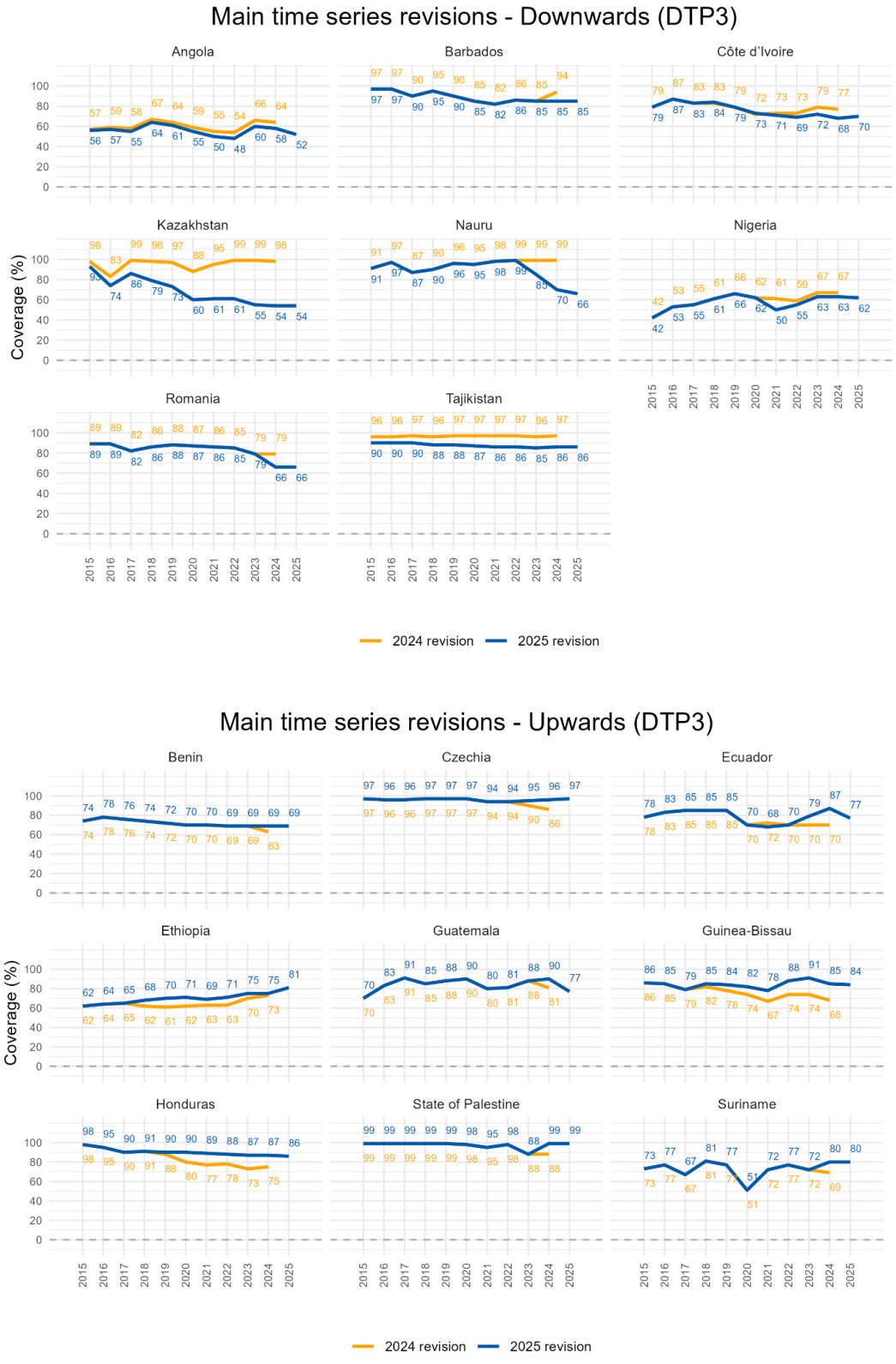
- **DTP1 estimated coverage in the absence of reported data or illogical reported data:** Historically, when a country did not report data for DTP1 or reported DTP3 coverage exceeded that reported for DTP1, the rules estimated DTP1 coverage leveraging a modelled relationship derived from survey data. Beginning with the 2024 revision, the rules estimate DTP1 coverage in such instances by assigning estimated DTP1 coverage equal to estimated DTP3 coverage assuming zero dropout. The Working Group retains the ability to override the rule with explanation.

Changes in estimates due to updates in empirical data between revisions result from:

- Updated data submitted by Member States and previously reported time series were revised.
- New survey data becoming available after 2024 revision (between 1 July 2025 and 21 June 2026).
- 2024 data reported late (between 1 July 2025 and 21 June 2026), and not included in 2024 revision (published in July 2025) of coverage estimates.

A list of countries with major changes in the estimated time series is provided in Figure 3.

Figure 3: Countries with important revisions in the WHO and UNICEF estimates of national immunization coverage (WUENIC estimates for DTP3) time series between 2024 and 2025 revisions



Vaccine introduction and data availability

For vaccine introduction, or the introduction of additional doses into the routine immunization schedule (such as the second dose of measles-containing vaccines or Hepatitis B birth dose), WHO and UNICEF estimates of national immunization coverage are produced beginning in the first year for which data are reported by national authorities. In situations where a vaccine was introduced sub-nationally or the introduction occurred after January, the WHO and UNICEF estimates of coverage are based on computed coverage for the annual national target population.

- **Hepatitis B**

Countries without infant immunization in the national immunization schedule: Denmark, Finland, Hungary, Iceland.

Denmark, Finland, Iceland and Hungary introduced the vaccine only for risk groups. Hungary also introduced the vaccine for adolescents.

- **Hepatitis B (HepB) birth dose:**

Data collection form (JRF coverage tables) was modified in 2017 (for 2016 data). Countries were asked to report birth dose given in 24 hours and "all birth doses" (i.e., within and after 24 hours). Estimates follow the WHO recommendation for universal HepB birth dose administration for all newborns worldwide For countries . *WUENIC estimates are not available for countries that introduced Hepatitis B birth dose but are not able to differentiate doses given within 24 hours from doses given beyond 24 hours.*

- Angola: Introduced in 2015; however, data on birth dose given within 24 hours is not reported.
- Canada: Reports partial HepB birth dose introduction; however, data on birth dose given within 24 hours is not reported.
- Ethiopia: Introduced in 2025; however, data on birth dose given within 24 hours is not reported.
- Equatorial Guinea: Introduced in 2018; however, no differences in the data reported between birth dose given within 24 hours and the late dose.
- Libya: Introduced prior to 2000; however, data on birth dose given within 24 hours is not reported.
- Mauritania: Introduced in 2013; however, data on birth dose given within 24 hours is not reported.
- Niue: Introduced before 2000; however, no differences in the data reported between birth dose given within 24 hours and the late dose.
- Russian Federation: Introduced prior to 2000; however, coverage is not assessed at the national level, thus, coverage data not reported by the country.

- Uganda: Introduced in 2022; however, data on birth dose given within 24 hours is not reported.

Of the countries that do not recommend a universal HepB birth dose, 28 recommend a HepB birth dose for infants born to mothers with chronic hepatitis B virus infection, while 47 have not introduced a HepB birth dose at all into their national immunization schedules.

- **Haemophilus influenzae type b (Hib)**

Only China has not introduced into the national immunization schedule.

- **Inactivated Polio Vaccine complete dose of the primary series (IPVC)**

Estimates for the second or third doses (depending on number of doses recommended in national schedule) of the inactivated polio vaccine (IPVC) were first produced in the 2025 revision, with estimates from 2021 onwards. IPVC corresponds to either the second dose of IPV for countries with a two-dose IPV schedule, or the third dose of IPV for countries with three or more IPV doses in their schedule. Countries with more than one IPV dose in their schedule for which no IPVC coverage estimate is produced are:

- Morocco: Introduced in 2024. No reported data.
- Thailand: Introduced in 2023. No reported data.
- Turkmenistan: Introduced in 2025. No reported data.
- Samoa: Introduced in 2025. No reported data.

Twenty-four countries that have not yet introduced two or more doses in their national schedules.

- **Meningococcal A conjugate vaccine (MengA):**

WHO and UNICEF produce national estimates only for the countries that are located in the meningitis belt of sub-Saharan Africa.
This list can be found here: https://www.who.int/publications/i/item/9789241516860.

From these 26 countries, eleven have not introduced MengA in their national immunization schedule: Burundi, Cameroon, Democratic Republic of the Congo, Ethiopia, Kenya, Mauritania, Rwanda, Senegal, South Sudan, United Republic of Tanzania, Uganda.

- **Pneumococcal conjugate vaccine (PCVC):**

Countries report a range of PCV schedules, including three infant doses without a booster (3+0), two infant doses followed by a booster (2+1), three infant doses followed by a booster (3+1), and, more recently, one infant dose followed by a booster (1+1). Recommended PCV schedules continue to evolve, with countries most often shifting from a 3+0 schedule to either 2+1 or 3+1.

In most countries, PCVC represents the third PCV dose, whether administered before or after 12 months of age. In some cases, however, WUENIC estimates for PCVC may reflect the proportion of surviving infants who received two PCV doses before their first birthday.

- Austria: Introduced in 2014. No reported data.
- Brunei-Darussalam: Introduced in 2025. No reported data.
- Jordan: Introduced in 2025. No reported data.
- Monaco: Introduced in 2006. No reported data.

Twenty-four countries have not introduced PCV vaccine.

Iraq: Following introduction in 2017 and reported coverage data for 2017–2019. A value of zero was reported between 2020 and 2022; reporting of values > 0 resumed in 2023.

Venezuela: Following introduction in 2014 and reported coverage data for 2015–16, the country appears to have stopped using the vaccine. Since 2017, WHO and UNICEF produce estimates equal to ‘zero’.

- **Second dose measles-containing vaccine (MCV2):**

Countries that have not introduced: Central African Republic and Gabon.

- **Rubella-containing vaccine:**

Based on Measles estimates (either first or second dose as appropriate per schedule) but modified if partial introduction.

Fifteen countries that have not yet introduced: Afghanistan, Central African Republic, Chad, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Ethiopia, Gabon, Guinea, Guinea-Bissau, Liberia, Madagascar, Niger, Somalia, South Sudan.

- **Rotavirus vaccine (Rota last dose):**

Fifty-seven countries have not yet introduced rotavirus vaccine.

Venezuela: Following introduction in 2006 and reported coverage data for 2006–17, the country appears to have stopped using the vaccine. Since 2018, WHO and UNICEF produce estimates equal to ‘zero’.

Philippines: Rotavirus introduction was part of a pilot project during 2012 and 2015 and subsequently discontinued.

- **Yellow Fever:**

WHO and UNICEF produce national estimates only for the countries at-risk for yellow fever. A listing of at-risk countries can be accessed online at: https://iris.who.int/bitstream/handle/10665/272408/9789241513661-eng.pdf?ua=.

- France: Introduced in 1967 at subnational level (French Guyana). No reported data.

Two countries, Ethiopia and South Sudan, are yellow fever at-risk countries (see list above) but have not introduced the vaccine in their national immunization schedules.

- Cabo Verde: Uses vaccine in routine schedule, but an estimate is not produced because the country is not at risk.
- Chile: Uses vaccine in routine schedule at subnational level, but an estimate is not produced because the country is not at risk.
- São Tome and Principe: Country no longer at risk but has continued using vaccine in routine schedule, and estimates continue to be produced.
- Seychelles: Uses vaccine in routine schedule, but an estimate is not produced because the country is not at risk.

List of countries where WHO and UNICEF estimates of national immunization coverage are different (>5%-pts) from reported data — based on DTP3 coverage in 2025.

Reported data: Countries official estimates are treated as reported data unless the working group decides to accept the reported administrative coverage data instead. Administrative coverage data are accepted if the government official data are absent or there is insufficient justification for the government official estimate or the government official estimate represents target coverage instead of achieved coverage. Instances where WUENIC differs from the reported coverage data are shown below.

The comment field in the table below provides an explanation of 2025 coverage estimates; for a more comprehensive explanation, it is important to look at the explanations of the complete time-series for different antigens from the specific country profiles: https://immunizationdata.who.int/listing.html, https://data.unicef.org/resources/immunization-country-profiles/ or https://worldhealthorg.shinyapps.io/wuenic-trends

Country	WUENIC	Admin	Official	Comment	Diff
Afghanistan*	61	83	83	Reported data calibrated to 2024 levels. Estimate challenged by: D-R-	-22
Angola	52	67	67	Reported data calibrated to 2022 levels. Programme reports 90 percent reporting completeness. Estimate challenged by: R-	-15
Azerbaijan	51	81	81	Reported data calibrated to 2021 levels. Reported data excluded. Difference of 20 percent between the number of births and surviving infants due to a shortfall in local child registration, rather than cohort discrepancies, which has resulted in significantly fewer registered children than birth in 2025. WHO and UNICEF are aware of the ongoing Cluster Survey on Vaccination and await final results. Estimate challenged by: R-	-30
Benin*	69	114	84	Reported data calibrated to 2022 levels. WHO and UNICEF recommend a revision of the time series in light of inconsistent denominator used in the last three years. Estimate challenged by: D-R-	-15
Bolivia (Plurinational State of)	59	82	82	Estimate informed by extrapolation from reported data. Reported data excluded due to sudden change in coverage from 59 to 82 percent. Reported target population decline of over 26 percent between 2024 and 2025. WHO and UNICEF suggest a retrospective revision of denominators based on the revised target population from the 2024 census. Revision of the target population suggests that estimates may underestimate true coverage. GoC=R+ D+	-23

Botswana	95	71	NA	Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high quality survey to verify reported levels of coverage. WUENIC may be overestimating the true coverage in recent years. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 and 2012 birth cohorts.	24
Cambodia*	81	93	NA	Reported data calibrated to 2020 levels. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high-quality survey to verify reported levels of coverage. Estimate challenged by: R-	-12
Central African Republic*	46	110	110	Estimate is based on the relationship between reported number of doses in 2024 and 2025, applied to the 2024 estimated coverage. Reported data excluded because 110 percent greater than 100 percent. WHO and UNICEF encourage continued improvement in data quality and a revision of the coverage time series based on survey results. Estimate challenged by: D-R-	-64
Chad*	71	105	105	Estimated coverage reflects trend in reported data. Reported data excluded because 105 percent greater than 100 percent. Estimate challenged by: D-R-S-	-34
Côte d'Ivoire*	70	97	97	Reported data calibrated to 2024 levels. Estimate challenged by: D-R-	-27
Democratic Republic of the Congo*	65	95	95	Estimate informed by extrapolation from reported data. Reported data excluded. Unexplained increase of 9 percent in the denominator, and no adjustment of the administrative coverage to produce the official estimates.Reported data excluded due to sudden change in coverage from 65 to 95 percent. WHO and UNICEF are aware of the ongoing 2025 Vaccination Coverage Survey and await final results. Estimate challenged by: D-	-30
Dominican Republic	87	93	93	Estimate informed by extrapolation from reported data. Reported data excluded. Unexplained decline in target population and number of doses. Reported target population decline of 26 percent for vaccines in the first year of life, and 19 percent for vaccines in the second year of life between 2024 and 2025. Estimate challenged by: D-	-6
Fiji	94	86	NA	Estimate informed by extrapolation from reported data. Reported data excluded. Official coverage not reported. WHO and UNICEF recommend a comprehensive review of reporting system and resultant coverage data. WHO and	8

				UNICEF are aware of the 2024 National Immunization Coverage Survey and await final report. GoC=R+ D+	
Gambia*	82	97	97	Estimate is based on the relationship between reported number of doses in 2024 and 2025, applied to the 2024 estimated coverage. Reported data excluded due to sudden change in coverage from 80 to 97 percent. Unexplained decline of 18 percent in reported number of births and 15 percent in surviving infants between 2024 and 2025. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high-quality survey to verify reported levels of coverage. Estimate challenged by: R-	-15
Guinea-Bissau*	84	67	68	Reported data calibrated to 2023 levels. Inconsistent adjustment of official estimates. Estimate challenged by: R-	17
Haiti*	58	77	77	Estimate is based on the relationship between reported number of doses in 2024 and 2025, applied to the 2024 estimated coverage. Reported data excluded. Decline in coverage partially explained by a 7 percent increase in target population. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high-quality survey to verify reported levels of coverage as the situation permits. Estimate challenged by: D-R-	-19
Kazakhstan	54	98	NA	Reported data calibrated to 2023 levels. Reported target population decline of 9 percent between 2024 and 2025. Reported target population of live births is 11 percent higher than that of surviving infants. The Ministry of Health believes the 2024 MICS survey results underestimate true vaccination coverage compared with programme data, and disagrees with its use to inform the WHO/UNICEF estimates. Estimate challenged by: D-R-	-44
Kenya*	88	80	80	Reported data calibrated to 2020 levels. WHO and UNICEF are aware of the ongoing 2025 Interim DHS survey and await final results. Estimate challenged by: R-	8
Lao People's Democratic Republic*	67	89	89	Reported data calibrated to 2021 levels. Estimate challenged by: D-R-	-22
Lebanon	52	62	62	Reported data calibrated to 2019 levels. Reported target population decline of 11 percent between 2024 and 2025 partially explained by the departure of Syrian refugees following recent political developments in Syria. Caution should be used when interpreting the data, as the trend seen for DTP1 vs. later doses would suggest a large increase in drop-out in recent years. WHO	-10

				and UNICEF are aware of an ongoing 2023 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: R-	
Liberia*	83	96	96	Reported data calibrated to 2018 levels. Reported data excluded. Inaccurate numerator due to double reporting and inclusion of non-target groups. WHO and UNICEF recommend a revision of the reported time series using a consistent denominator. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high quality survey to verify reported levels of coverage. Estimate challenged by: D-R-	-13
Madagascar*	64	85	85	Reported data calibrated to 2023 levels. WHO and UNICEF are aware of the ongoing 2024-2025 Multiple Indicator Cluster Survey and await final results. Preliminary results from the EPI Coverage Survey suggest coverage of 63 percent for the cohort vaccinated in 2024. Estimate challenged by: D-R-	-21
Mali*	84	104	82	Estimate based on the change in administrative coverage applied to previous year estimate. Reported data excluded because 104 percent greater than 100 percent. Method for deriving the official estimates not explained. Estimate challenged by: D-R-	-20
Marshall Islands	85	5	NA	Estimate informed by extrapolation from reported data. Reported data excluded. Official coverage not reported. No nationally representative independent assessment for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high-quality independent assessment to verify reported levels of coverage. Fluctuation in reported administrative data is attributed to small birth cohort. Estimate challenged by: D-	80
Mauritania*	86	76	76	Estimate informed by extrapolation from reported data. Reported data excluded. Reported target population increase of 10 to 14 percent between 2024 and 2025. WHO and UNICEF are aware of the ongoing 2026 Multiple Indicator Cluster Survey and await final results. GoC=R+ D+	10
Mozambique*	70	116	116	Estimate based on previous year estimate. Reported data excluded because 116 percent greater than 100 percent. Reported data excluded due to sudden change in coverage from 128 to 116 percent. Estimate challenged by: D-R-	-46

Myanmar*	71	79	79	Estimate informed by extrapolation from reported data. Reported data excluded. Decline in reported target population of 10 to 13 percent, resulting from triangulation from growth rate, 2024 census, head count and microplanning. Reporting completeness of 83 percent. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high-quality survey to verify reported levels of coverage. Programme reported vaccine stock-out at subnational level. GoC=R+ D+	-8
Nigeria*	62	92	53	Reported data calibrated to 2022 levels. Programme reported a 1 month vaccine stock-out at the national and subnational levels. WHO and UNICEF encourage continued efforts to independently assess the quality of the administrative recording and reporting system at all levels, alongside continued implementation of the national data quality improvement plan activities. WHO and UNICEF are aware of the ongoing 2025 DHS and 2025-2026 MICS surveys and await final results. Official estimate based on results of the most recent survey at the time of reporting. Estimate challenged by: D-R-	-30
Paraguay	80	86	86	Estimate informed by extrapolation from reported data. Reported data excluded. Reported decline of over 12 percent in live births and surviving infants between 2024 and 2025. The denominator is obtained from administrative records of live births captured by the health system during the fiscal year. Programme reported a 1 month vaccine stock-out at the national level. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high-quality survey to verify reported levels of coverage. Estimate challenged by: D-	-6
Peru	84	90	90	Estimate informed by extrapolation from reported data. Reported data excluded. Unexplained decline in target population of 14 to 21 percent between 2023 and 2024. WHO and UNICEF are aware of the ongoing 2025 Peru Encuesta Demográfica y de Salud Familiar-ENDES survey and await final results. Estimate challenged by: D-	-6
Sierra Leone*	91	104	104	Estimate informed by extrapolation from reported data. Reported data excluded. Unexplained high coverage from 2023 sustained.Reported data excluded because 104 percent greater than 100 percent. WHO and UNICEF are aware of the ongoing 2025-2026 Multiple Indicator Cluster Survey and await final results. Estimate challenged by: D-	-13

Solomon Islands*	87	72	72	Estimate informed by extrapolation from reported data. Reported data excluded. Reported surviving infants increased 15 percent between 2024 and 2025 and is higher than live births. WHO and UNICEF recommend a historical revision of the target population based on the updated population estimates in 2025. Reported data excluded due to sudden change in coverage from 87 to 72 percent. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high quality survey to verify reported levels of coverage. Estimate challenged by: D-	15
South Sudan*	73	93	80	Estimate based on previous year estimate. WHO and UNICEF are aware of the ongoing 2025 Multiple Indicator Cluster Survey (MICS) and await final results. Coverage from the MICS 2025 Key Findings Report suggest coverage of 39 percent for the cohort vaccinated in 2023. Estimate challenged by: D-R-	-7
Syrian Arab Republic*	60	66	66	Reported data calibrated to 2012 levels. Country reports inclusion of Northwest in numerators and denominators. Also, country conducted several rounds of intensification of vaccination activities. Since 2012, estimates are based on a calibration factor given by the recalculated coverage using the reported number of doses and an independent estimate of the target population in the context of civil unrest. Recent surveys, though they exclude part of the population, suggest coverage levels that are closer to official coverage estimates compared to prior to 2012. Programme indicated population movement and security-related challenges as a reason for the observed decline in coverage in part of the country. Estimate challenged by: D-R-	-6
São Tomé and Principe*	87	96	96	Estimate informed by extrapolation from reported data. Reported data excluded. Unexplained decline in target population and doses administered since 2023. Estimate challenged by: D-	-9
Tajikistan*	86	97	97	Reported data calibrated to 2022 levels. Estimate challenged by: D-R-	-11
United Republic of Tanzania*	83	95	94	Reported data calibrated to 2023 levels. Reported data excluded. Reported target population increase of 8 percent between 2024 and 2025. Estimate challenged by: D-R-	-11
Yemen*	39	70	70	Reported data calibrated to 2021 levels. Country reported less supervisory visits in conflict affected areas. Estimate challenged by: D-R-	-31
Zambia*	91	85	85	Reported data calibrated to 2022 levels. Estimate challenged by: D-R-	6

*Gavi-eligible country
WUENIC: WHO/UNICEF coverage estimates 2025 revision (completed July 2026)

Admin: reported administrative coverage data
Gov: reported government official estimate of coverage
D–: indicates the estimated coverage is challenged by recomputed coverage using reported coverage numerator data and an independent denominator
R–: indicates the estimated coverage is challenged by reported coverage data
Diff: difference between reported data and WHO/UNICEF coverage estimates where the reported data reflects the government official estimate if provided, otherwise it reflects the reported administrative coverage data unless government official estimate excluded.