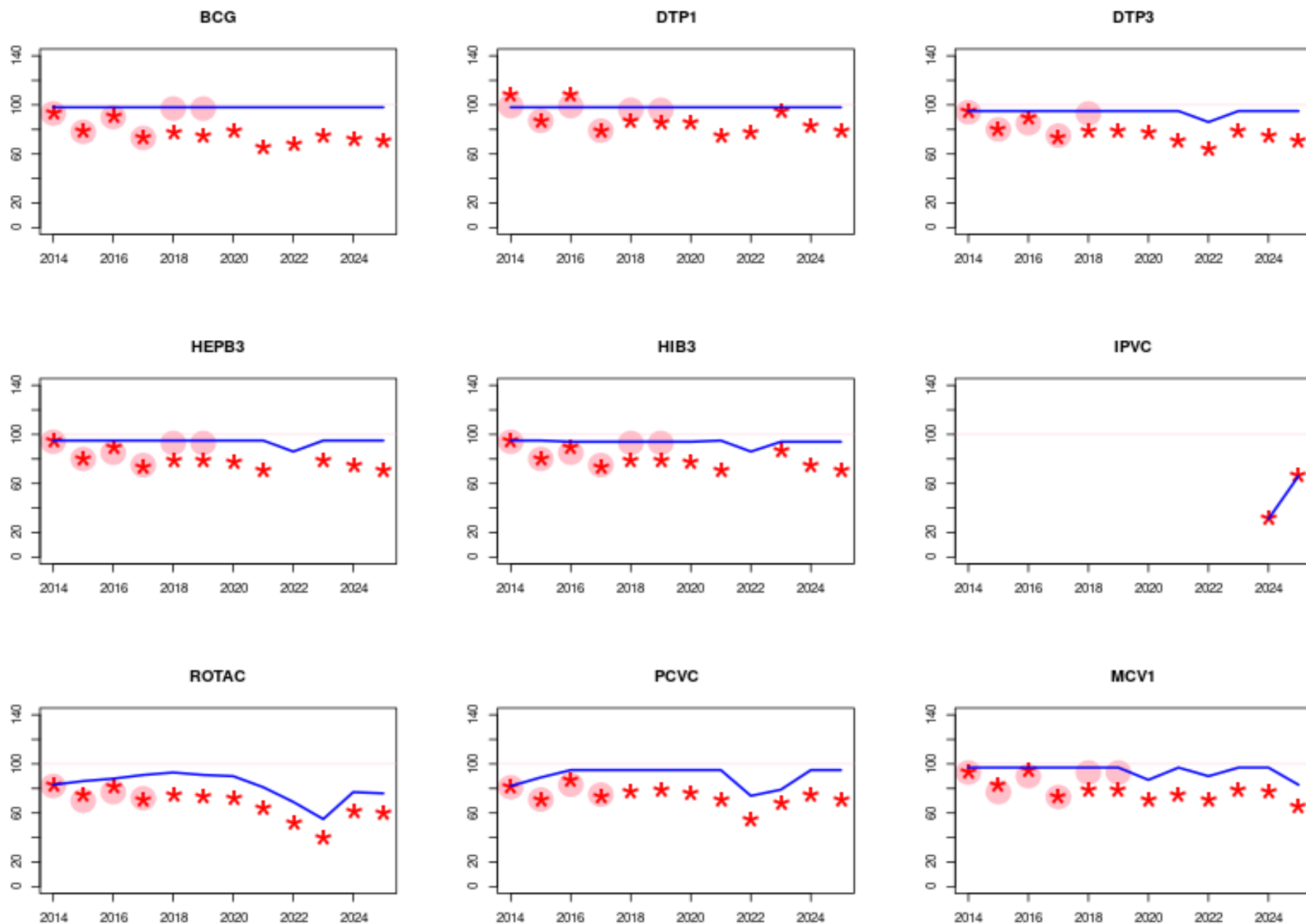




BACKGROUND NOTE Each year WHO and UNICEF jointly review reports submitted by Member States regarding national immunization coverage, finalized survey reports as well as data from published and grey literature. Based on these data, with due consideration to potential biases and the views of local experts, WHO and UNICEF attempt to distinguish between situations where available empirical data accurately reflect immunization system performance and those where the data are likely compromised and present a misleading view of coverage. The estimates refer to immunizations delivered through routine immunization services to children less than 12 months of age, or at the age specified in the recommended immunization schedule, for whom vaccinations are recorded. Immunizations received through supplemental immunization activities, such as polio and measles campaigns, are not included.

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 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. For methods see:

* Burton et al. 2009. Bull World Health Organ. * Burton et al. 2012. PLoS One.
* Brown et al. 2013. Open Pub Health Journal. * Danovaro-Holliday et al. 2021. Gates Open Res.

DATA SOURCES

ADMINISTRATIVE coverage: Reported by national authorities and based on aggregated administrative reports from health service providers on the number of vaccinations administered during a given period (numerator data) and reported target population data (denominator data). May be biased by inaccurate numerator and/or denominator data.

OFFICIAL coverage: Estimated coverage reported by national authorities that reflects their assessment of the most likely coverage based on any combination of administrative coverage, survey-based estimates or other data sources or adjustments. Approaches to determine OFFICIAL coverage may differ across countries.

SURVEY coverage: Based on estimated coverage from population-based household surveys among children aged 6-11, 12-23 or 24-35 months following a review of survey methods and results. Information is based on the combination of vaccination history from documented evidence or caregiver recall. Survey results are considered for the appropriate birth cohort based on data collection period.

ABBREVIATIONS AND DEFINITIONS

BCG: percentage of births who received one dose of Bacillus Calmette Guerin vaccine.

DTP1 / DTP3: percentage of surviving infants who received the 1st / 3rd dose, respectively, of diphtheria and tetanus toxoid with pertussis containing vaccine.

IPV1: percentage of surviving infants who received the first dose of inactivated polio vaccine.

IPVC: percentage of surviving infants who received the final recommended dose of IPV in the primary series, according to the national immunization schedule primary series (e.g., second or third dose).

MCV1: percentage of surviving infants who received the 1st dose of measles containing vaccine. In countries where the national schedule recommends the 1st dose of MCV at 12 months or later based on the epidemiology of disease in the country, coverage estimates reflect the percentage of children who received the 1st dose of MCV as recommended.

MCV2: percentage of children who received the 2nd dose of measles containing vaccine according to the nationally recommended schedule.

RCV1: percentage of surviving infants who received the 1st dose of rubella containing vaccine. Coverage estimates are based on WHO and UNICEF estimates of coverage for the dose of measles containing vaccine that corresponds to the first measles-rubella combination vaccine. Nationally reported coverage of RCV is not taken into consideration in the production of the estimate.

HEPBB: percentage of births which received a dose of hepatitis B vaccine within 24 hours of delivery. Estimates of hepatitis B birth dose coverage are produced only for countries with a universal birth dose policy. Estimates are not produced for countries that recommend a birth dose to infants born to HEPB virus-infected mothers only or where there is insufficient information to determine whether vaccination is within 24 hours of birth.

HEPB3: percentage of surviving infants who received the 3rd dose of hepatitis B containing vaccine following the birth dose.

HIB3: percentage of surviving infants who received the 3rd dose of Haemophilus influenzae type b containing vaccine.

ROTAC: percentage of surviving infants who received the final recommended dose of rotavirus vaccine, which can be either the 2nd or the 3rd dose depending on the vaccine.

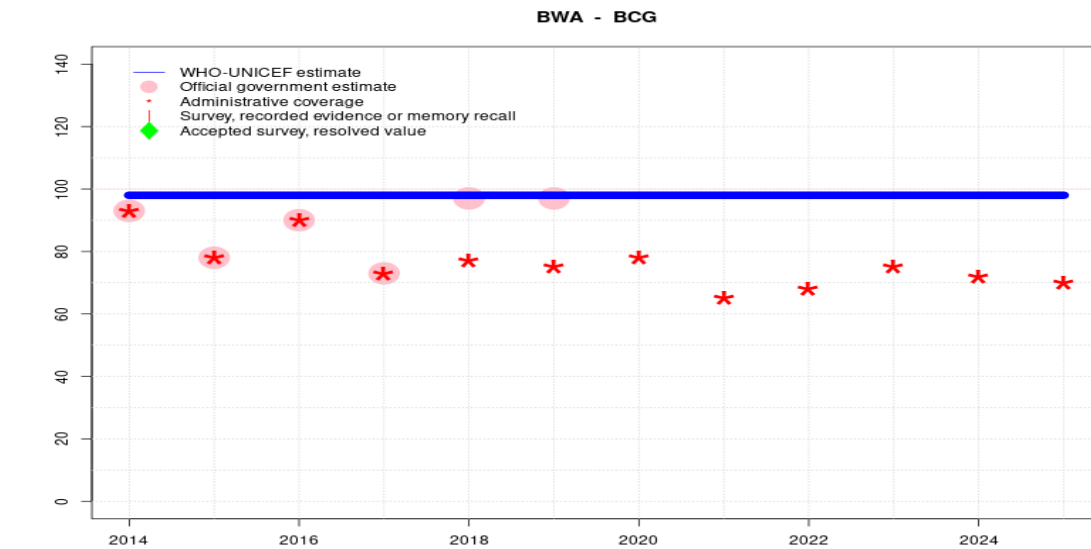
PCVC: percentage of surviving infants who received the final recommended dose of pneumococcal conjugate vaccine according to the national immunization schedule (e.g., second or third dose).

YFV: percentage of surviving infants who received one dose of yellow fever vaccine in countries where YFV is part of the national immunization schedule for children or is recommended in at risk areas; coverage estimates are annualized for the entire cohort of surviving infants.

MENGA: percentage of children who received one dose of meningococcal A conjugate vaccine. MENGA coverage estimates produced for countries in the meningitis belt of sub-Saharan Africa.

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Botswana - BCG



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	98	98	98	98	98	98	98	98	98	98	98	98
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	93	78	90	73	97	97	-	-	-	-	-	-
Administrative	93	78	90	73	77	75	78	65	68	75	72	70
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

2025: 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.

2024: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data are incomplete with 71 percent expected reports received. 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.

2023: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Programme reports one-month vaccine stockout at national level. 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.

2022: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. 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.

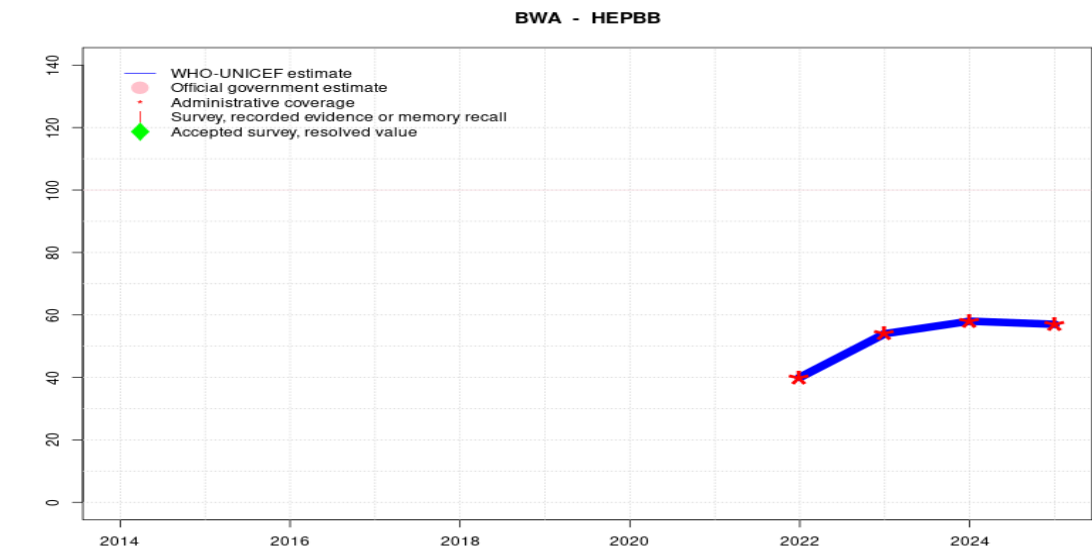
2021: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data are incomplete with about one third of the reports not yet at the national level at the time of eJRF data submission. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 and 2012 birth cohorts.

2020: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Country switched to DHIS2 information system and indicates some unquantified data loss. 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.

2019: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.

2018: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.
- 2017: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to decline in reported coverage from 90 percent to 73 percent with increase to 97 percent. 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.
- 2016: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to an increase from 78 percent to 90 percent with decrease to 73 percent. 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.
- 2015: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to decline in reported coverage from 93 percent to 78 percent with increase to 90 percent. Decline in reported coverage appears to be an artefact of an increase in the target population from 2014 to 2015 combined with a slight decrease in the reported number of children vaccinated in 2015 compared to 2014 reported totals. 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.
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.



Description:

- 2025: Estimate informed by reported administrative data. 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. GoC assigned to maintain consistency across vaccines.
- 2024: Estimate informed by reported administrative data. Reported data are incomplete with 71 percent expected reports received. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2023: Estimate informed by reported administrative data. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2022: Birth dose added to the schedule in 2002. Monitoring of administration within 24 hours of birth started since 2022. Estimate exceptionally based on reported coverage. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

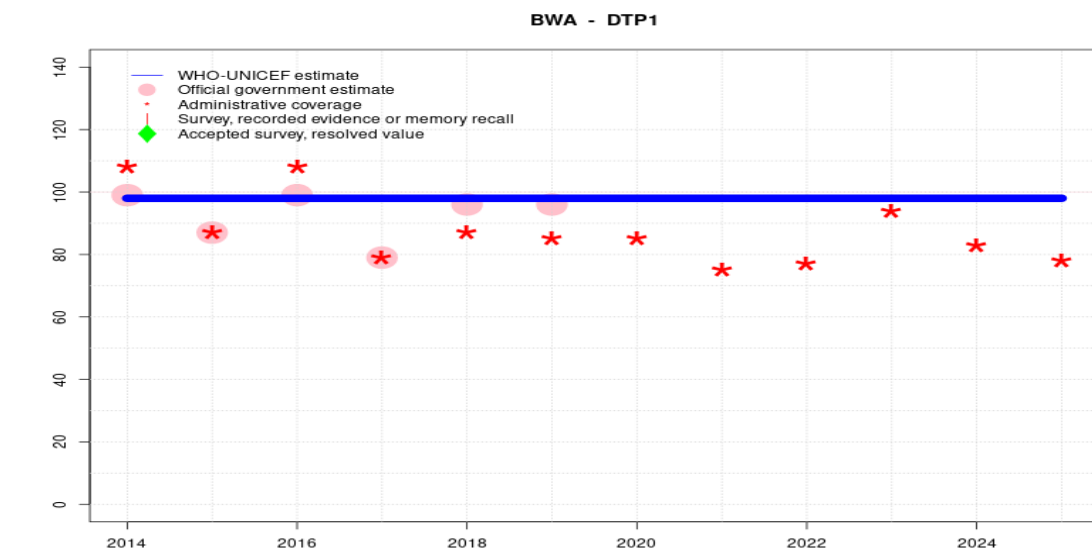
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	-	-	-	-	-	-	-	-	40	54	58	57
Estimate GoC	-	-	-	-	-	-	-	-	●	●	●	●
Official	-	-	-	-	-	-	-	-	-	-	-	-
Administrative	-	-	-	-	-	-	-	-	40	54	58	57
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Botswana - DTP1



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	98	98	98	98	98	98	98	98	98	98	98	98
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	99	87	99	79	96	96	-	-	-	-	-	-
Administrative	108	87	108	79	87	85	85	75	77	94	83	78
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

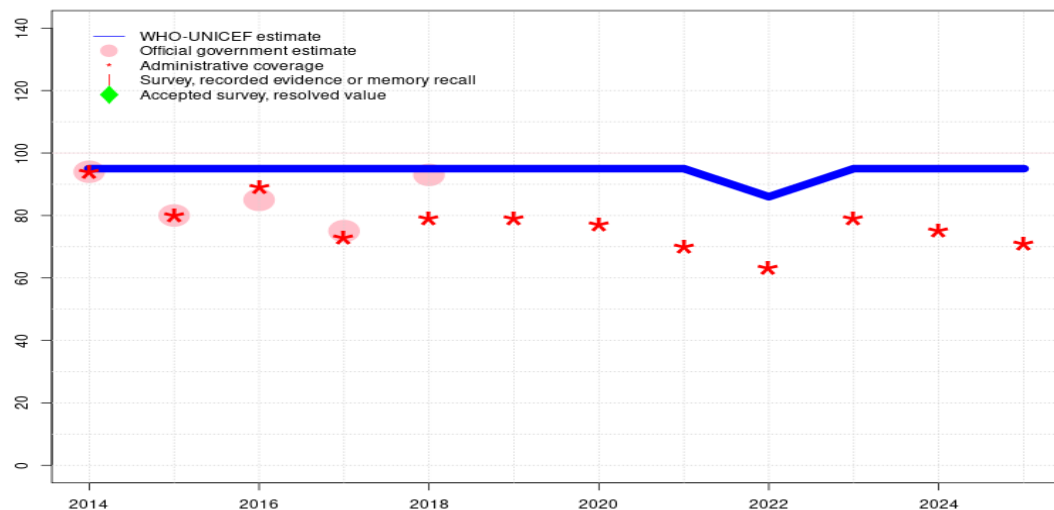
Description:

- 2025: Estimate informed by extrapolation from reported data. 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.
- 2024: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data are incomplete with 71 percent expected reports received. 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.
- 2023: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to an increase from 77 percent to 94 percent with decrease to 83 percent. 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.
- 2022: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Programme reports two months vaccine stockout at national and subnational levels. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. 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.
- 2021: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data are incomplete with about one third of the reports not yet at the national level at the time of eJRF data submission. 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.
- 2020: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Programme reported a three months vaccine stockout at national level. Country switched to DHIS2 information system and indicates some unquantified data loss. 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.
- 2019: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.
- 2018: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.
- 2017: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to decline in reported coverage from 99 percent to 79 percent with increase to 96 percent. 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.
- 2016: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to an increase from 87 percent to 99 percent with decrease to 79 percent. 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.
- 2015: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to decline in reported coverage from 99 percent to 87 percent with increase to 99 percent. Decline in reported coverage appears to be an artefact of an increase in the target population from 2014 to 2015 combined with a slight decrease in the reported number of children vaccinated in 2015 compared to 2014 reported totals. 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.
- 2014: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.

Botswana - DTP3

BWA - DTP3



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	95	95	95	95	95	95	95	95	86	95	95	95
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	94	80	85	75	93	-	-	-	-	-	-	-
Administrative	94	80	89	73	79	79	77	70	63	79	75	71
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

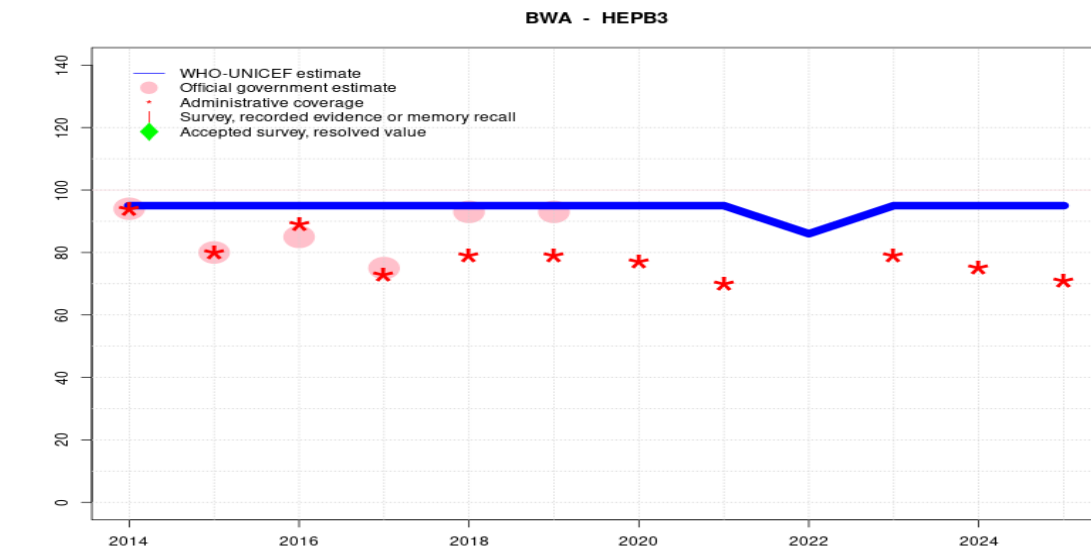
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2025: 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.
- 2024: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data are incomplete with 71 percent expected reports received. 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.
- 2023: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.
- 2022: Estimate informed by relative change in reported number of doses administered between 2021 and 2022 applied to the prior year estimate. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Programme reports two months vaccine stockout at national and subnational levels. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. 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.
- 2021: Estimate informed by prior year estimate. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data are incomplete with about one third of the reports not yet at the national level at the time of eJRF data submission. 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.
- 2020: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Programme reported a three months vaccine stockout at national level. Country switched to DHIS2 information system and indicates some unquantified data loss. 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.
- 2019: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.

- 2018: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to an increase from 75 percent to 93 percent with decrease to 79 percent. 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.
- 2017: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.
- 2016: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.
- 2015: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Decline in reported coverage appears to be an artefact of an increase in the target population from 2014 to 2015 combined with a slight decrease in the reported number of children vaccinated in 2015 compared to 2014 reported totals. 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.
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to an increase from 79 percent to 94 percent with decrease to 80 percent. 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.

Botswana - HEPB3



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	95	95	95	95	95	95	95	95	86	95	95	95
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	94	80	85	75	93	93	-	-	-	-	-	-
Administrative	94	80	89	73	79	79	77	70	-	79	75	71
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

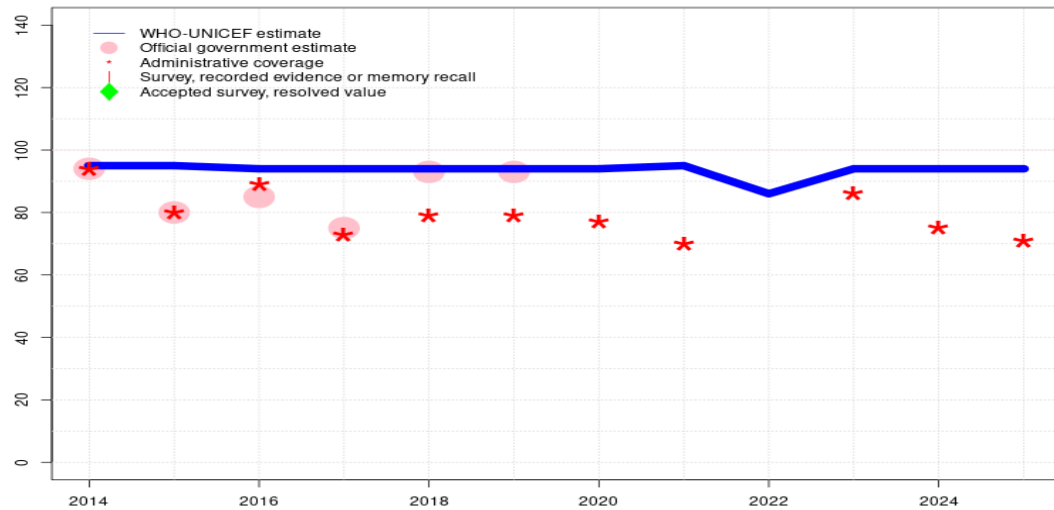
Description:

- 2025: Reported data calibrated to 2012 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. 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.
- 2024: Reported data calibrated to 2012 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data are incomplete with 71 percent expected reports received. 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.
- 2023: Reported data calibrated to 2012 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. 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.
- 2022: Estimate informed by estimated DTP3 coverage level. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. 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.
- 2021: Estimate informed by estimated DTP3 coverage level. Estimate informed by estimated DTP3 coverage level. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data are incomplete with about one third of the reports not yet at the national level at the time of eJRF data submission. 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.
- 2020: Reported data calibrated to 2012 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Programme reported a three months vaccine stockout at national level. Country switched to DHIS2 information system and indicates some unquantified data loss. 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.
- 2019: Reported data calibrated to 2012 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. 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.
- 2018: Reported data calibrated to 2012 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. 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.

- 2017: Reported data calibrated to 2012 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. 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.
- 2016: Reported data calibrated to 2012 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. 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.
- 2015: Reported data calibrated to 2012 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Decline in reported coverage appears to be an artefact of an increase in the target population from 2014 to 2015 combined with a slight decrease in the reported number of children vaccinated in 2015 compared to 2014 reported totals. 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.
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. 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.

Botswana - Hib3

BWA - Hib3



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	95	95	94	94	94	94	94	95	86	94	94	94
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	94	80	85	75	93	93	-	-	-	-	-	-
Administrative	94	80	89	73	79	79	77	70	-	86	75	71
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

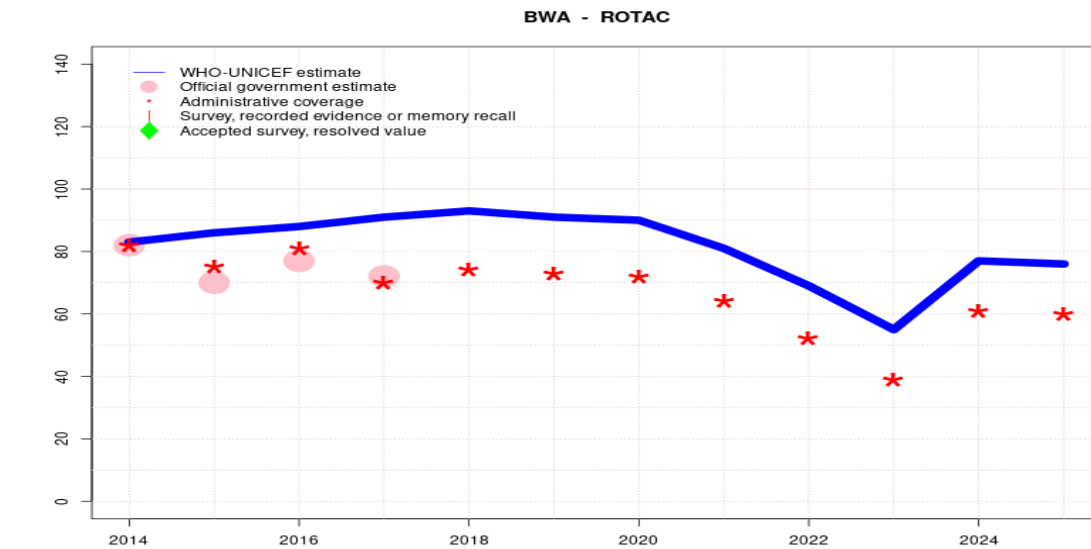
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2025: Estimate informed by extrapolation from reported data. 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 2012 birth cohort.
- 2024: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data are incomplete with 71 percent expected reports received. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2012 birth cohort.
- 2023: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2012 birth cohort.
- 2022: Estimate informed by estimated DTP3 coverage level. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2012 birth cohort.
- 2021: Estimate informed by estimated DTP3 coverage level. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data are incomplete with about one third of the reports not yet at the national level at the time of eJRF data submission. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2012 birth cohort.
- 2020: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Programme reported a three months vaccine stockout at national level. Country switched to DHIS2 information system and indicates some unquantified data loss. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2012 birth cohort.
- 2019: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2012 birth cohort.
- 2018: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2012 birth cohort.

- 2017: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2012 birth cohort.
- 2016: Estimate informed by extrapolation from reported data. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2012 birth cohort.
- 2015: Estimate informed by survey results. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Decline in reported coverage appears to be an artefact of an increase in the target population from 2014 to 2015 combined with a slight decrease in the reported number of children vaccinated in 2015 compared to 2014 reported totals. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2012 birth cohort.
- 2014: Estimate informed by survey results. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2012 birth cohort.

Botswana - ROTAC



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	83	86	88	91	93	91	90	81	69	55	77	76
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	82	70	77	72	-	-	-	-	-	-	-	-
Administrative	82	75	81	70	74	73	72	64	52	39	61	60
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

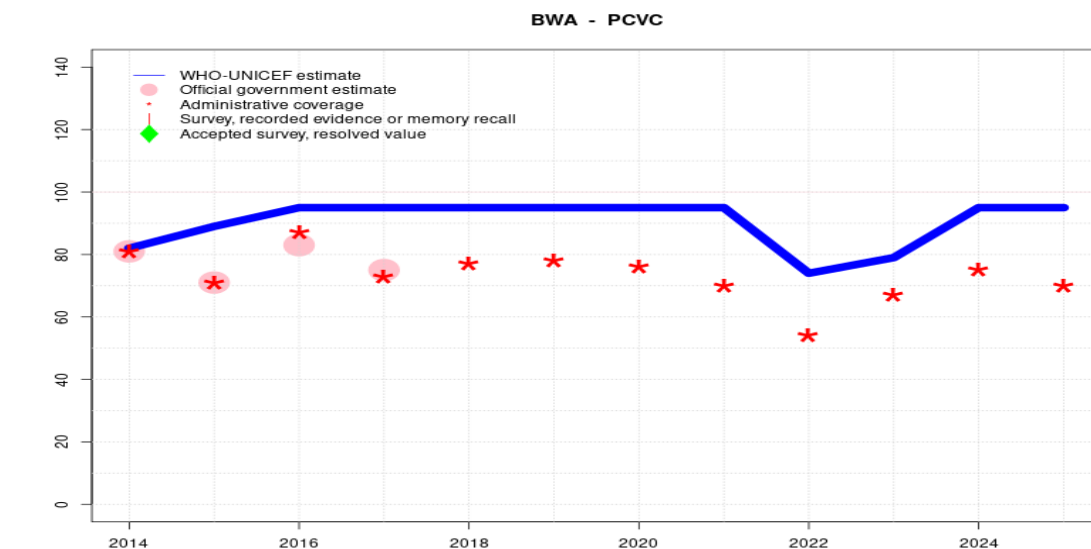
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2025: Reported data calibrated to 2024 levels. Programme reported 1 month vaccine stock-out at the national and subnational 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. WUENIC may be overestimating the true coverage in recent years. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2024: Estimate of 77 percent assigned by working group. Estimate is based on the relationship between reported administrative coverage for DTP3 and ROTAC applied to the DTP3 estimated coverage. Reported data are incomplete with 71 percent expected reports received. Estimate of 77 percent changed from previous revision value of 74 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2023: Reported data calibrated to 2017 and 2024 levels. Programme reports five months vaccine stockout at national and levels. Estimate is exceptionally based on reported data. Estimate of 55 percent changed from previous revision value of 52 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2022: Reported data calibrated to 2017 and 2024 levels. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. Programme reports eight months vaccine stockout at national and subnational levels. Estimate is exceptionally based on reported data. Estimate of 69 percent changed from previous revision value of 65 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2021: Reported data calibrated to 2017 and 2024 levels. Reported data are incomplete with about one third of the reports not yet at the national level at the time of eJRF data submission. Estimate of 81 percent changed from previous revision value of 85 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2020: Reported data calibrated to 2017 and 2024 levels. Country switched to DHIS2 information system and indicates some unquantified data loss. Estimate of 90 percent changed from previous revision value of 85 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2019: Reported data calibrated to 2017 and 2024 levels. Estimate of 91 percent changed from previous revision value of 86 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2018: Reported data calibrated to 2017 and 2024 levels. Estimate of 93 percent changed from previous revision value of 87 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2017: Estimate of 91 percent assigned by working group. Estimate is based on the relationship between reported administrative coverage for DTP3 and ROTAC applied to the DTP3 estimated coverage. Estimate of 91 percent changed from previous revision value of 85 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

- 2016: Reported data calibrated to 2014 and 2017 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2015: Reported data calibrated to 2014 and 2017 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Decline in reported coverage appears to be an artefact of an increase in the target population from 2014 to 2015 combined with a slight decrease in the reported number of children vaccinated in 2015 compared to 2014 reported totals. Estimate of 86 percent changed from previous revision value of 92 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2014: Estimate of 83 percent assigned by working group. Estimate is based on the relationship between reported administrative coverage for DTP3 and RotaC applied to the DTP3 estimated coverage. Estimate of 83 percent changed from previous revision value of 95 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

Botswana - PCVC



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	82	89	95	95	95	95	95	95	74	79	95	95
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	81	71	83	75	-	-	-	-	-	-	-	-
Administrative	81	71	87	73	77	78	76	70	54	67	75	70
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2025: Reported data calibrated to 2016 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. GoC assigned to maintain consistency across vaccines.
- 2024: Reported data calibrated to 2016 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Estimate is exceptionally informed by trend in reported administrative coverage in the absence of recent survey data on which other estimated coverage levels are based. Reported data are incomplete with 71 percent expected reports received. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2023: Estimate is based on the relationship between reported number of doses in 2022 and 2023, applied to the 2022 estimated coverage. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Estimate is exceptionally informed by trend in reported administrative coverage in the absence of recent survey data on which other estimated coverage levels are based. Programme reports five months vaccine stockout at national and levels. Estimate of 79 percent changed from previous revision value of 86 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2022: Estimate is based on the relationship between reported number of doses in 2021 and 2022, applied to the 2021 estimated coverage. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to decline in reported coverage from 70 percent to 54 percent with increase to 67 percent. Estimate is exceptionally informed by trend in reported administrative coverage in the absence of recent survey data on which other estimated coverage levels are based. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. Programme reports four months vaccine stockout at national and subnational levels. Estimate of 74 percent changed from previous revision value of 73 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2021: Reported data calibrated to 2016 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Estimate is exceptionally informed by trend in reported administrative coverage in the absence of recent survey data on which other estimated coverage levels are based. Reported data are incomplete with about one third of the reports not yet at the national level at the time of eJRF data submission. Estimate of 95 percent changed from previous revision value of 90 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2020: Reported data calibrated to 2016 levels. Reported data excluded. Fluctuation in reported

data suggest poor quality administrative recording and reporting. Estimate is exceptionally informed by trend in reported administrative coverage in the absence of recent survey data on which other estimated coverage levels are based. Country switched to DHIS2 information system and indicates some unquantified data loss. Estimate of 95 percent changed from previous revision value of 94 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

2019: Reported data calibrated to 2016 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Estimate is exceptionally informed by trend in reported administrative coverage in the absence of recent survey data on which other estimated coverage levels are based. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

2018: Reported data calibrated to 2016 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Estimate is exceptionally informed by trend in reported administrative coverage in the absence of recent survey data on which other estimated coverage levels are based. Estimate of 95 percent changed from previous revision value of 93 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

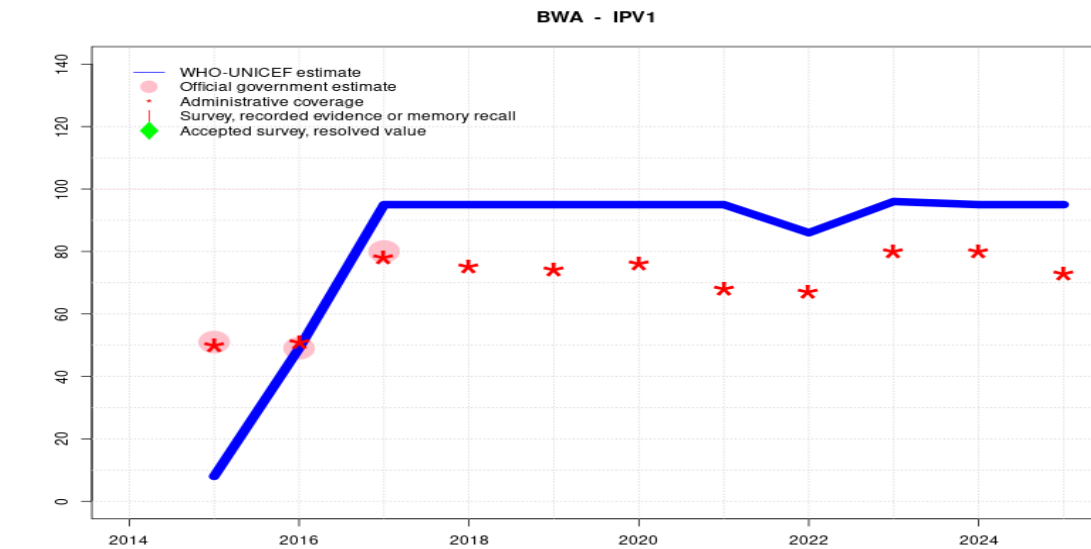
2017: Reported data calibrated to 2016 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Estimate is exceptionally informed by trend in reported official coverage in the absence of recent survey data on which other estimated coverage levels are based. Estimate of 95 percent changed from previous revision value of 91 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

2016: Estimate of 95 percent assigned by working group. Estimate based on estimated DTP3 coverage. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Estimate is exceptionally informed by trend in reported official coverage in the absence of recent survey data on which other estimated coverage levels are based. Estimate of 95 percent changed from previous revision value of 92 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

2015: Reported data calibrated to 2014 and 2016 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Decline in reported coverage appears to be an artefact of an increase in the target population from 2014 to 2015 combined with a slight decrease in the reported number of children vaccinated in 2015 compared to 2014 reported totals. Estimate is exceptionally informed by trend in reported official coverage in the absence of recent survey data on which other estimated coverage levels are based. Estimate of 89 percent changed from previous revision value of 94 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

2014: Estimate of 82 percent assigned by working group. Estimate is based on the relationship between reported administrative coverage for DTP3 and PCVC applied to the DTP3 estimated coverage. Estimate is exceptionally informed by trend in reported official coverage in the absence of recent survey data on which other estimated coverage levels are based. Estimate of 82 percent changed from previous revision value of 95 percent.

Botswana - IPV1



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	-	8	49	95	95	95	95	95	86	96	95	95
Estimate GoC	-	●	●	●	●	●	●	●	●	●	●	●
Official	-	51	49	80	-	-	-	-	-	-	-	-
Administrative	-	50	51	78	75	74	76	68	67	80	80	73
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

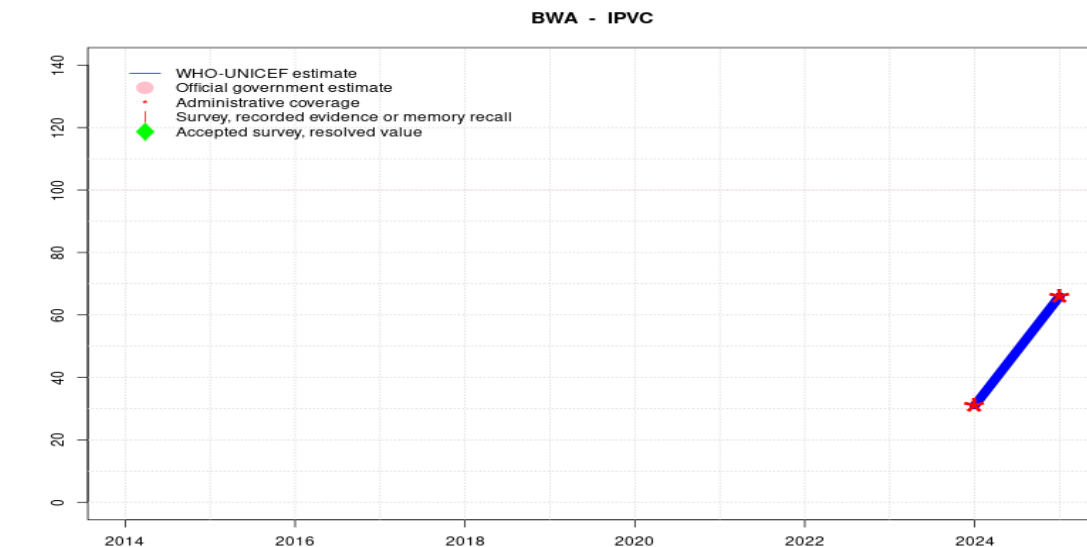
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2025: Estimate based on prior year estimate. 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. Estimate challenged by: D-R-
- 2024: Estimate informed by estimated DTP3 coverage level. Reported data are incomplete with 71 percent expected reports received. Estimate challenged by: D-R-
- 2023: Estimate informed by the relationship between reported coverage and the estimated DTP3 coverage level. Estimate challenged by: D-R-
- 2022: Estimate informed by estimated DTP3 coverage level. Programme reports subnational vaccine stockout. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. Estimate challenged by: D-R-
- 2021: Estimate informed by estimated DTP3 coverage. Reported data are incomplete with about one third of the reports not yet at the national level at the time of eJRF data submission. Estimate challenged by: D-R-
- 2020: Estimate informed by estimated DTP3 coverage. Country switched to DHIS2 information system and indicates some unquantified data loss. Estimate challenged by: D-R-
- 2019: Estimate informed by estimated DTP3 coverage. Estimate challenged by: D-R-
- 2018: Estimate informed by estimated DTP3 coverage. Estimate challenged by: D-R-
- 2017: Estimate informed by estimated DTP3 coverage. Programme reported 2.8 months stockout of IPV. Estimate challenged by: R-
- 2016: Programme reported 6 and a half months stockout of IPV. Estimate challenged by: R-
- 2015: Estimate of 8 percent assigned by working group. Inactivated polio vaccine introduced in November 2015. Programme reports 50 percent coverage in 17 percent of target population. Estimate informed by coverage achieved in total annual national target population. Decline in reported coverage appears to be an artefact of an increase in the target population from 2014 to 2015 combined with a slight decrease in the reported number of children vaccinated in 2015 compared to 2014 reported totals. Estimate challenged by: R-

Botswana - IPV



Description:

- 2025: Estimate informed by reported administrative data. 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=R+ D+
- 2024: Estimate informed by reported administrative data. Second dose of inactivated polio vaccine introduced in 2024. Reported data are incomplete with 71 percent expected reports received. GoC=R+ D+

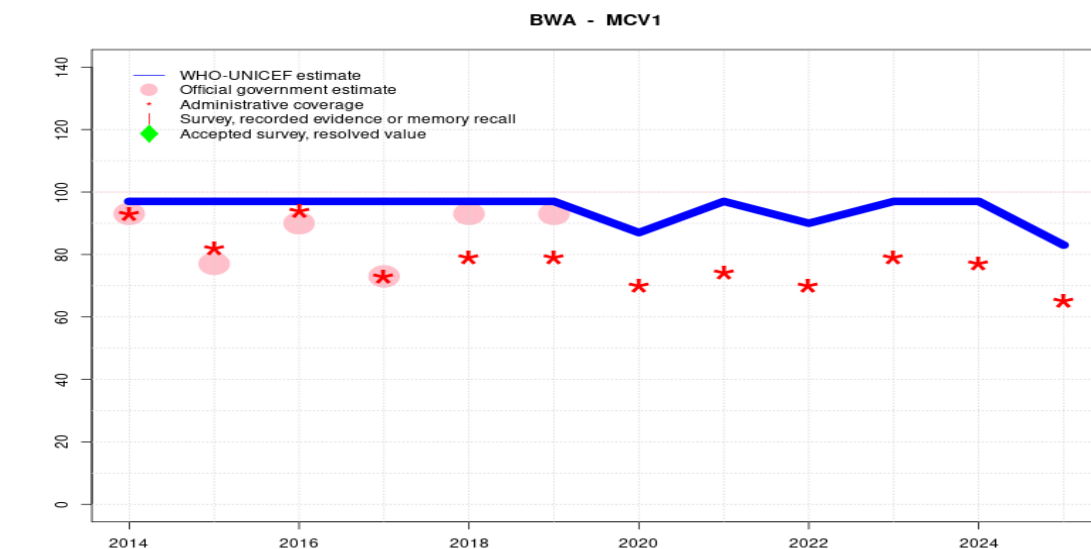
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	-	-	-	-	-	-	-	-	-	-	31	66
Estimate GoC	-	-	-	-	-	-	-	-	-	-	●●	●●
Official	-	-	-	-	-	-	-	-	-	-	-	-
Administrative	-	-	-	-	-	-	-	-	-	-	31	66
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Botswana - MCV1



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	97	97	97	97	97	97	87	97	90	97	97	83
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	93	77	90	73	93	93	-	-	-	-	-	-
Administrative	93	82	94	73	79	79	70	74	70	79	77	65
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

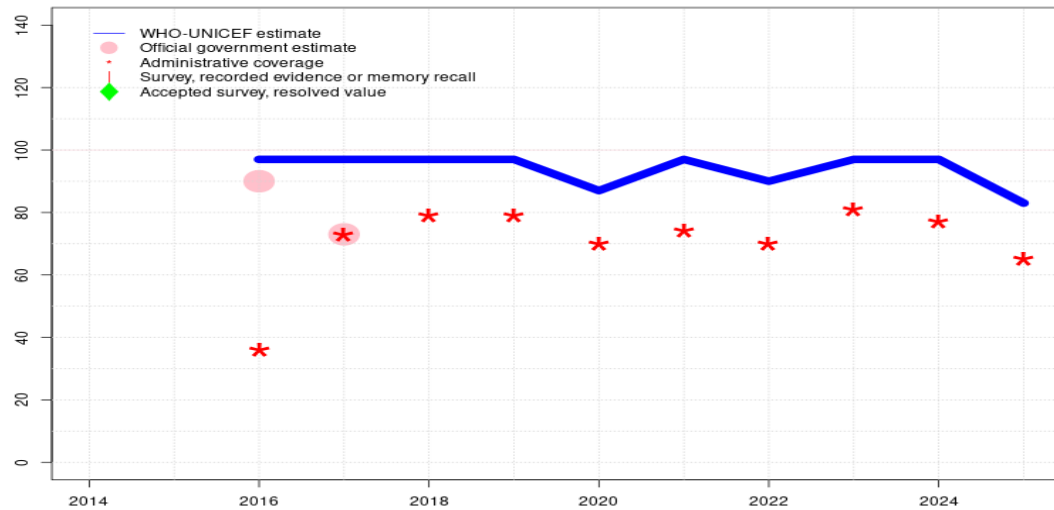
- 2025: Estimate exceptionally based on reported decline in numerator consistent with a reported 4 months vaccine stockout at national and subnational levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to sudden change in coverage from 77 to 65 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. 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.
- 2024: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data are incomplete with 71 percent expected reports received. 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.
- 2023: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Programme reports a 10-month vaccine stockout at national level. Programme indicates that this did not affect subnational levels. 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.
- 2022: Estimate informed by relative change in reported number of doses administered between 2021 and 2022 applied to the prior year estimate. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Programme reports four months vaccine stockout at national and subnational levels. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. 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.
- 2021: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data are incomplete with about one third of the reports not yet at the national level at the time of eJRF data submission. 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.
- 2020: Estimate exceptionally based on reported decline in numerator consistent with a reported three months vaccine stockout at national and subnational levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Country switched to DHIS2 information system and indicates some unquantified data loss. 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.

cohorts.

- 2019: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.
- 2018: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.
- 2017: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to decline in reported coverage from 90 percent to 73 percent with increase to 93 percent. 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.
- 2016: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to an increase from 77 percent to 90 percent with decrease to 73 percent. Programme reported a measles-containing vaccines of less than a month. 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.
- 2015: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded due to decline in reported coverage from 93 percent to 77 percent with increase to 90 percent. Decline in reported coverage appears to be an artefact of an increase in the target population from 2014 to 2015 combined with a slight decrease in the reported number of children vaccinated in 2015 compared to 2014 reported totals. 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.
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Fluctuation in reported data suggest poor quality administrative recording and reporting. 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.

Botswana - RCV1

BWA - RCV1



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	-	-	97	97	97	97	87	97	90	97	97	83
Estimate GoC	-	-	•	•	•	•	•	•	•	•	•	•
Official	-	-	90	73	-	-	-	-	-	-	-	-
Administrative	-	-	36	73	79	79	70	74	70	81	77	65
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

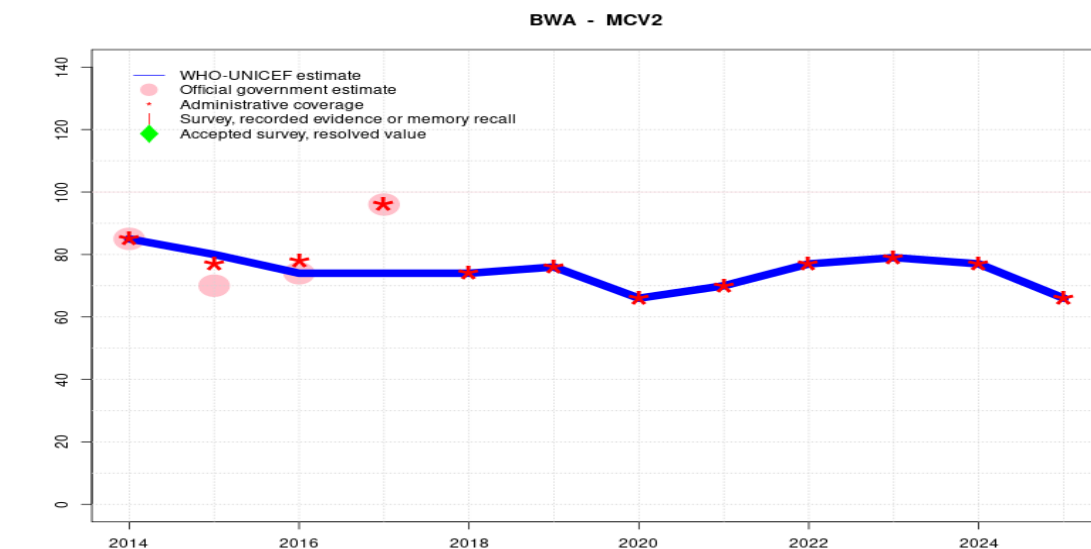
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2025: Estimate exceptionally based on reported decline in numerator consistent with a reported 4 months vaccine stockout at national and subnational levels. Reported data excluded due to sudden change in coverage from 77 to 65 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. 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.
- 2024: Estimate based on estimated MCV1. Reported data are incomplete with 71 percent expected reports received. 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.
- 2023: Estimate based on estimated MCV1. 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.
- 2022: Estimate informed by relative change in reported number of doses administered between 2021 and 2022 applied to the prior year estimate. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. 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.
- 2021: Estimate based on estimated MCV1. Reported data are incomplete with about one third of the reports not yet at the national level at the time of eJRF data submission. 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.
- 2020: Estimate based on estimated MCV1 coverage. Country switched to DHIS2 information system and indicates some unquantified data loss. 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.
- 2019: Estimate based on estimated MCV1. 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.
- 2018: Estimate based on estimated MCV1. 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.
- 2017: Estimate based on estimated MCV1. 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.
- 2016: Estimate based on estimated MCV1. Rubella containing vaccine introduced in 2016. 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.

Botswana - MCV2



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	85	80	74	74	74	76	66	70	77	79	77	66
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	85	70	74	96	-	-	-	-	-	-	-	-
Administrative	85	77	78	96	74	76	66	70	77	79	77	66
Survey	-	-	-	-	-	-	-	-	-	-	-	-

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2024 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2025: Estimate informed by reported administrative data. 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. Programme reported 4 months vaccine stock-out at the national and subnational levels. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2024: Estimate informed by reported administrative data. Reported data are incomplete with 71 percent expected reports received. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2023: Estimate informed by reported administrative data. Programme reports a 10-month vaccine stockout at national level. Programme indicates that this did not affect subnational levels. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2022: Estimate informed by reported administrative data. Programme reports four months vaccine stockout at national and subnational levels. Reported data are incomplete with two-thirds of expected reports received. The 2022 EPI Review noted increased challenges in data quality and provided detailed recommendations for data quality improvement. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2021: Estimate informed by reported administrative data. Reported data are incomplete with about one third of the reports not yet at the national level at the time of eJRF data submission. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2020: Estimate informed by reported administrative data. Programme reports a three months vaccine stockout at national and subnational levels. Country switched to DHIS2 information system and indicates some unquantified data loss. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2019: Estimate informed by reported administrative data. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2018: Estimate informed by reported administrative data. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2017: Estimate informed by interpolation between reported data. Reported data excluded due to an increase from 74 percent to 96 percent with decrease to 74 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2016: Estimate informed by reported data. Programme reported a measles-containing vaccines of less than a month. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2015: Estimate informed by interpolation between reported data. Reported data excluded. Vaccine to vaccine consistency. Decline in reported coverage appears to be an artefact of an increase in the target population from 2014 to 2015 combined with a slight decrease in the reported number of children vaccinated in 2015 compared to 2014 reported totals. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

Botswana - MCV2

2014: Estimate informed by reported data. Estimate is exceptionally based on official reported coverage in the absence of recent survey data on which other estimated coverage levels are based. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

NOTE A survey to measure vaccination coverage for infants (i.e., children aged 0-11 months) will sample children aged 12-23 months at the time of survey to capture the youngest annual cohort of children who should have completed the vaccination schedule. Because WUENIC are for infant vaccinations, survey data in this report are presented to reflect the birth year of the youngest survey cohort. For example, results for a survey conducted during December 2020 among children aged 12-23 months at the time of the survey reflect the immunization experience of children born in 2019. Depending on the timing of survey field work, results may reflect the immunization experience of children born and vaccinated one or two years prior to the survey field work.

The survey results below present vaccination coverage estimates by antigen, confirmation method, and child’s age at the time of the survey. Coverage based on **Recall** reflects information based upon a mother’s or caregiver’s memory. Coverage based on **Record** reflects information drawn from documented vaccination history in home- and/or facility-based records. **Evidence seen** reflects the percentage of children in the sample with documented evidence of vaccination history seen by the survey team.

2012 Botswana Post Measles Campaign and Immunization Coverage Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Evidence seen
BCG	Record	97.4	12-23 m	442	97
BCG	Record or Recall	98.5	12-23 m	456	97
DTP1	Record	96.1	12-23 m	442	97
DTP1	Record or Recall	98	12-23 m	456	97
DTP3	Record	93	12-23 m	442	97
DTP3	Record or Recall	95.2	12-23 m	456	97
HEPB1	Record	96.1	12-23 m	442	97
HEPB1	Record or Recall	98	12-23 m	456	97
HEPB3	Record	93	12-23 m	442	97
HEPB3	Record or Recall	95.2	12-23 m	456	97
HIB1	Record	96.1	12-23 m	442	97
HIB1	Record or Recall	98	12-23 m	456	97
HIB3	Record	93	12-23 m	442	97
HIB3	Record or Recall	95.2	12-23 m	456	97

Further information and estimates for previous years are available at:
<https://data.unicef.org/topic/child-health/immunization/>

MCV1	Record	93.6	12-23 m	442	97
MCV1	Record or Recall	96.7	12-23 m	456	97

2006 Botswana EPI Coverage Survey 2007

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Evidence seen
BCG	Record or Recall	98.9	12-23 m	9083	98
DTP1	Record or Recall	97.5	12-23 m	9083	98
DTP3	Record or Recall	95.9	12-23 m	9083	98
HEPB1	Record or Recall	96.9	12-23 m	9083	98
HEPB3	Record or Recall	93.1	12-23 m	9083	98
MCV1	Record or Recall	93.7	12-23 m	9083	98

1999 Botswana Multiple Indicator Cluster Survey 2000, 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Evidence seen
BCG	Recall	12	12-23 m	618	84
BCG	Record	86.9	12-23 m	618	84
BCG	Record or Recall	98.9	12-23 m	618	84
BCG	Record or Recall<12m	98.9	12-23 m	618	84
DTP1	Recall	12	12-23 m	618	84
DTP1	Record	86.5	12-23 m	618	84
DTP1	Record or Recall	98.5	12-23 m	618	84
DTP1	Record or Recall<12m	97.5	12-23 m	618	84
DTP3	Recall	12	12-23 m	618	84
DTP3	Record	84.9	12-23 m	618	84
DTP3	Record or Recall	96.9	12-23 m	618	84
DTP3	Record or Recall<12m	94.3	12-23 m	618	84
MCV1	Recall	12	12-23 m	618	84
MCV1	Record	77.6	12-23 m	618	84
MCV1	Record or Recall	89.6	12-23 m	618	84
MCV1	Record or Recall<12m	83.4	12-23 m	618	84

<https://immunizationdata.who.int/listing.html>