

Montenegro: WHO and UNICEF estimates of immunization coverage: 2024 revision

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.

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.

POL3: percentage of surviving infants who received the 3rd dose of polio containing vaccine. May be either oral or inactivated polio vaccine.

IPV1: percentage of surviving infants who received at least one dose of inactivated polio vaccine. In countries utilizing an immunization schedule recommending either (i) a primary series of three doses of oral polio vaccine (OPV) plus at least one dose of IPV where OPV is included in routine immunization and/or campaign or (ii) a sequential schedule of IPV followed by OPV, WHO and UNICEF estimates for IPV1 reflect coverage with at least one routine dose of IPV among infants < 1 year of age. For countries utilizing IPV containing vaccine only, i.e., no recommended dose of OPV, WHO and UNICEF estimate for IPV1 corresponds to coverage for the 1st dose of IPV.

Production of IPV coverage estimates, which begins in 2015, results in no change of the estimated coverage levels for the 3rd dose of polio (POL3). For countries recommending routine immunization with a primary series of three doses of IPV alone, WHO and UNICEF estimated POL3 coverage is equivalent to estimated coverage with three doses of IPV. For countries with a sequential schedule, estimated POL3 coverage is based on that for the 3rd dose of polio vaccine regardless of vaccine type.

IPV2: percentage of surviving infants who received a 2nd dose of inactivated polio vaccine. IPV2 coverage estimates produced for OPV using countries.

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.

HEPB3: 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.

PCV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect the percentage of surviving infants who received two doses of PCV prior to the 1st birthday if coverage for the booster dose is not reported.

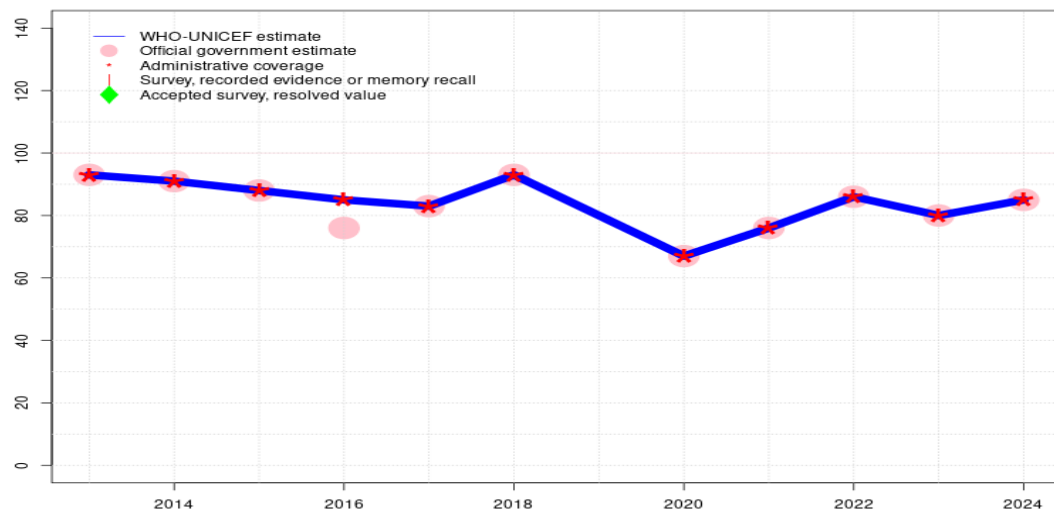
YFV: percentage of surviving infants who received one dose of yellow fever vaccine in countries where YFV is part of the national immunization schedule for children or is recommended in at risk areas; coverage estimates are annualized for the entire cohort of surviving infants.

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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Montenegro - BCG

MNE - BCG



Description:

- 2024: Estimate informed by reported data. 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. GoC=R+ D+
- 2023: Estimate informed by reported data. GoC=R+ D+
- 2022: Estimate informed by reported data. Programme reports one-half month vaccine stockout at national and subnational levels. GoC=R+ D+
- 2021: Estimate informed by reported data. GoC=R+ D+
- 2020: Estimate informed by reported data. Unexplained decline in BCG coverage. GoC=R+ D+
- 2019: Estimate informed by interpolation between reported data. GoC=No accepted empirical data
- 2018: Estimate informed by reported data. GoC=R+ D+
- 2017: Estimate informed by reported data. GoC=R+ D+
- 2016: Estimate informed by reported administrative data. GoC=R+ D+
- 2015: Estimate informed by reported data. Programme reports a one month stockout at the national level. GoC=R+ D+
- 2014: Estimate informed by reported data. GoC=R+ D+
- 2013: Estimate informed by reported data. GoC=R+ D+

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Estimate	93	91	88	85	83	93	80	67	76	86	80	85
Estimate GoC	●●	●●	●●	●●	●●	●●	●	●●	●●	●●	●●	●●
Official	93	91	88	76	83	93	-	67	76	86	80	85
Administrative	93	91	88	85	83	93	-	67	76	86	80	85
Survey	-	-	-	-	-	-	-	-	-	-	-	-

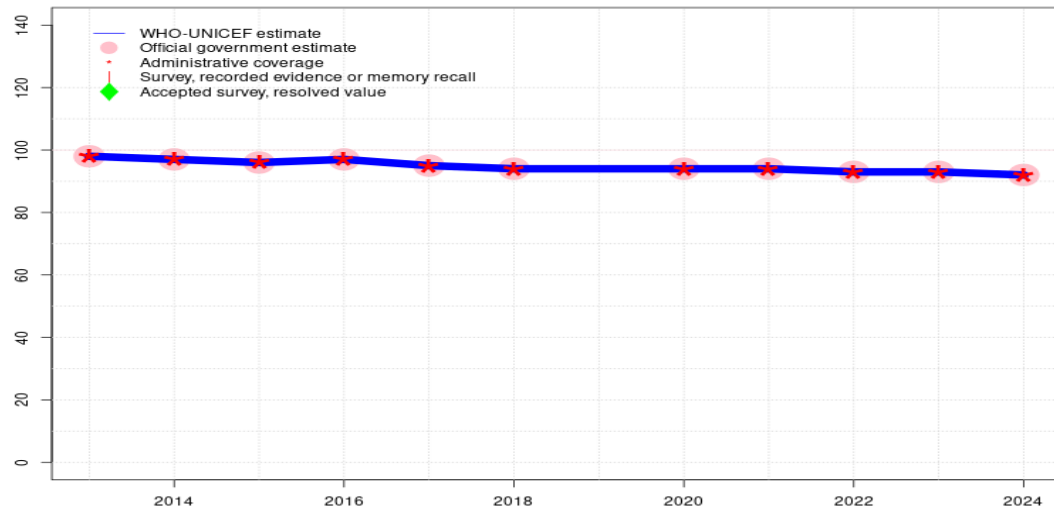
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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.

Montenegro - DTP1

MNE - DTP1



Description:

- 2024: Estimate informed by reported data. 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. Programme reported 8 months vaccine stockout at the national and subnational levels. GoC=R+ D+
- 2023: Estimate informed by reported data. GoC=R+ D+
- 2022: Estimate informed by reported data. GoC=R+ D+
- 2021: Estimate informed by reported data. GoC=R+ D+
- 2020: Estimate informed by reported data. GoC=R+ D+
- 2019: Estimate informed by interpolation between reported data. GoC=No accepted empirical data
- 2018: Estimate informed by reported data. GoC=R+ D+
- 2017: Estimate informed by reported data. GoC=R+ D+
- 2016: Estimate informed by reported data. GoC=R+ D+
- 2015: Estimate informed by reported data. GoC=R+ D+
- 2014: Estimate informed by reported data. Programme reports two months stockout of DTP containing vaccine at national level. GoC=R+ D+
- 2013: Estimate informed by reported data. GoC=R+ D+

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Estimate	98	97	96	97	95	94	94	94	94	93	93	92
Estimate GoC	●●	●●	●●	●●	●●	●●	●	●●	●●	●●	●●	●●
Official	98	97	96	97	95	94	-	94	94	93	93	92
Administrative	98	97	96	97	95	94	-	94	94	93	93	92
Survey	-	-	-	-	-	-	-	-	-	-	-	-

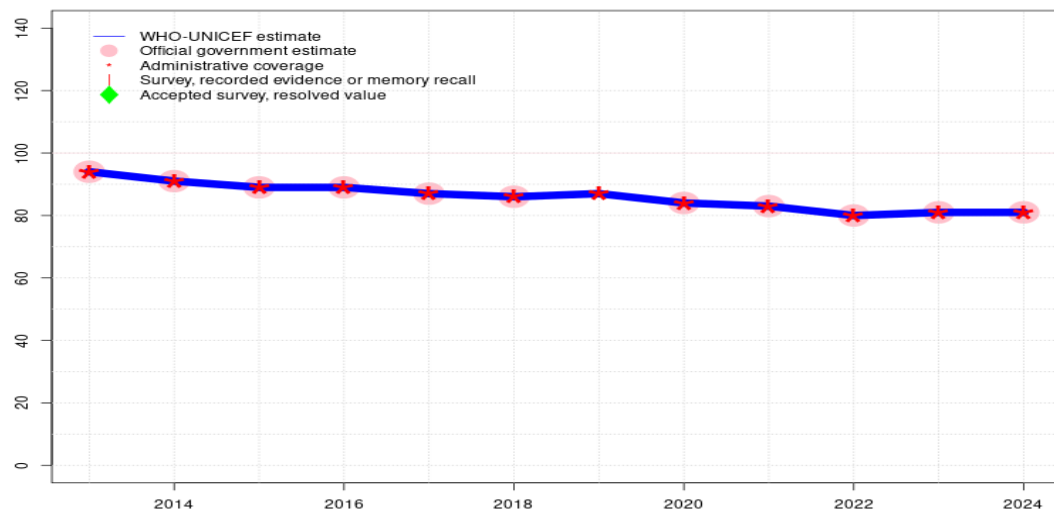
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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.

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Montenegro - DTP3

MNE - DTP3



Description:

2024: Estimate informed by reported data. 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. Programme reported 8 months vaccine stockout at the national and subnational levels. GoC=R+ D+

2023: Estimate informed by reported data. GoC=R+ D+

2022: Estimate informed by reported data. GoC=R+ D+

2021: Estimate informed by reported data. GoC=R+ D+

2020: Estimate informed by reported data. GoC=R+ D+

2019: Estimate informed by reported administrative data. Estimate of 87 percent changed from previous revision value of 85 percent. GoC=R+

2018: Estimate informed by reported data. GoC=R+ D+

2017: Estimate informed by reported data. GoC=R+ D+

2016: Estimate informed by reported data. GoC=R+ D+

2015: Estimate informed by reported data. GoC=R+ D+

2014: Estimate informed by reported data. Programme reports two months stockout of DTP containing vaccine at national level. GoC=R+ D+

2013: Estimate informed by reported data. GoC=R+ D+

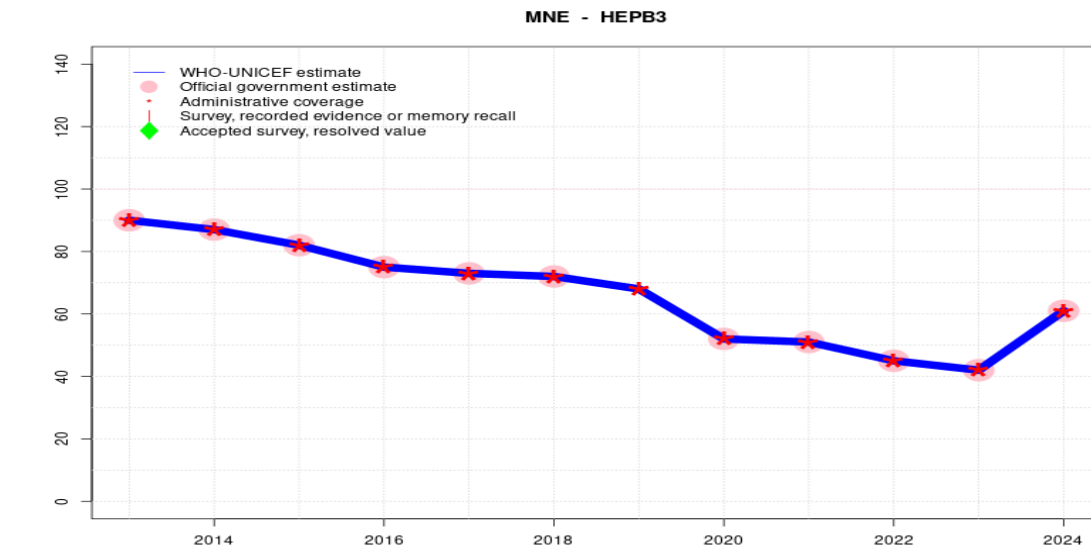
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Estimate	94	91	89	89	87	86	87	84	83	80	81	81
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	94	91	89	89	87	86	-	84	83	80	81	81
Administrative	94	91	89	89	87	86	87	84	83	80	81	81
Survey	-	-	-	-	-	-	-	-	-	-	-	-

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.

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Montenegro - HEPB3



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Estimate	90	87	82	75	73	72	68	52	51	45	42	61
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	90	87	82	75	73	72	-	52	51	45	42	61
Administrative	90	87	82	75	73	72	68	52	51	45	42	61
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.

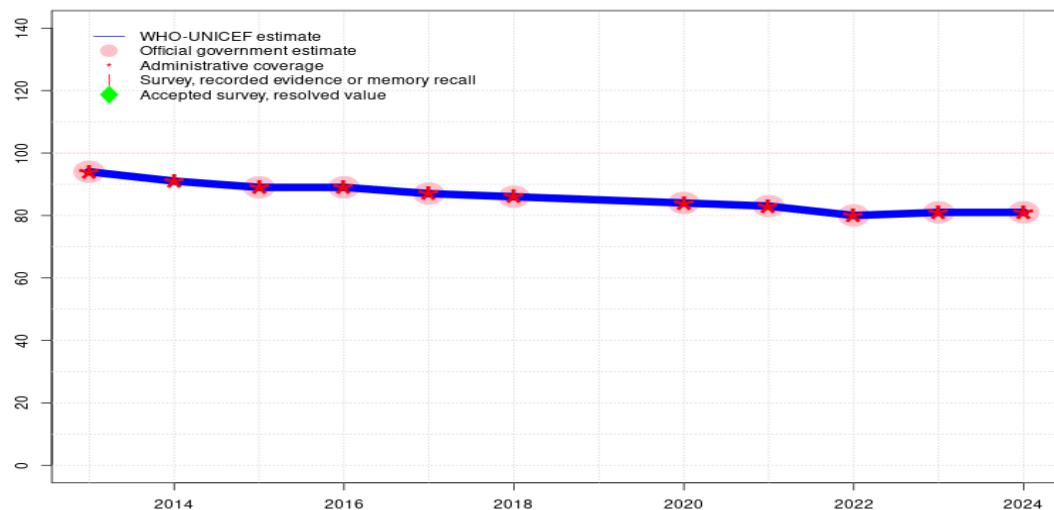
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2024: Estimate informed by reported data. 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. Programme reported 2 months vaccine stockout at the national and subnational levels. GoC=R+ D+
- 2023: Estimate informed by reported data. Programme reported 10 months vaccine stockout at the national and subnational levels. GoC=R+ D+
- 2022: Estimate informed by reported data. Programme reports four months vaccine stockout at national and subnational levels. GoC=R+ D+
- 2021: Estimate informed by reported data. Programme reports a three months vaccine stockout at national and district levels. GoC=R+ D+
- 2020: Estimate informed by reported data. Programme reports a nine month vaccine stockout at national and district levels. GoC=R+ D+
- 2019: Estimate informed by reported administrative data. Estimate of 68 percent changed from previous revision value of 62 percent. GoC=R+
- 2018: Estimate informed by reported data. GoC=R+ D+
- 2017: Estimate informed by reported data. Country reports one month stockout of HepB vaccine. GoC=R+ D+
- 2016: Estimate informed by reported data. GoC=R+ D+
- 2015: Estimate informed by reported data. GoC=R+ D+
- 2014: Estimate informed by reported data. GoC=R+ D+
- 2013: Estimate informed by reported data. GoC=R+ D+

Montenegro - Hib3

MNE - Hib3



Description:

- 2024: Estimate informed by reported data. 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. Programme reported 8 months vaccine stockout at the national and subnational levels. GoC=R+ D+
- 2023: Estimate informed by reported data. GoC=R+ D+
- 2022: Estimate informed by reported data. Programme reports five months vaccine stockout at national and subnational levels. GoC=R+ D+
- 2021: Estimate informed by reported data. GoC=R+ D+
- 2020: Estimate informed by reported data. GoC=R+ D+
- 2019: Estimate informed by interpolation between reported data. GoC=No accepted empirical data
- 2018: Estimate informed by reported data. GoC=R+ D+
- 2017: Estimate informed by reported data. GoC=R+ D+
- 2016: Estimate informed by reported data. GoC=R+ D+
- 2015: Estimate informed by reported data. GoC=R+ D+
- 2014: Estimate informed by reported administrative data. GoC=R+ D+
- 2013: Estimate informed by reported data. GoC=R+ D+

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Estimate	94	91	89	89	87	86	85	84	83	80	81	81
Estimate GoC	••	••	••	••	••	••	•	••	••	••	••	••
Official	94	-	89	89	87	86	-	84	83	80	81	81
Administrative	94	91	89	89	87	86	-	84	83	80	81	81
Survey	-	-	-	-	-	-	-	-	-	-	-	-

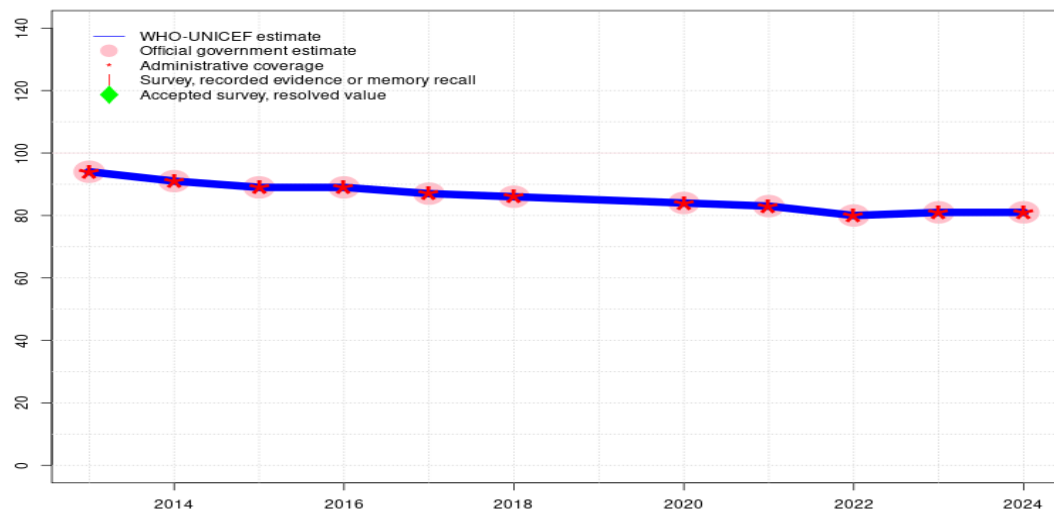
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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.

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Montenegro - POL3

MNE - POL3



Description:

- 2024: Estimate informed by reported data. 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. GoC=R+ D+
- 2023: Estimate informed by reported data. GoC=R+ D+
- 2022: Estimate informed by reported data. Programme reports three months OPV stockout at national and subnational levels. GoC=R+ D+
- 2021: Estimate informed by reported data. GoC=R+ D+
- 2020: Estimate informed by reported data. GoC=R+ D+
- 2019: Estimate informed by interpolation between reported data. GoC=No accepted empirical data
- 2018: Estimate informed by reported data. GoC=R+ D+
- 2017: Estimate informed by reported data. GoC=R+ D+
- 2016: Estimate informed by reported data. GoC=R+ D+
- 2015: Estimate informed by reported data. GoC=R+ D+
- 2014: Estimate informed by reported data. GoC=R+ D+
- 2013: Estimate informed by reported data. GoC=R+ D+

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Estimate	94	91	89	89	87	86	85	84	83	80	81	81
Estimate GoC	●●	●●	●●	●●	●●	●●	●	●●	●●	●●	●●	●●
Official	94	91	89	89	87	86	-	84	83	80	81	81
Administrative	94	91	89	89	87	86	-	84	83	80	81	81
Survey	-	-	-	-	-	-	-	-	-	-	-	-

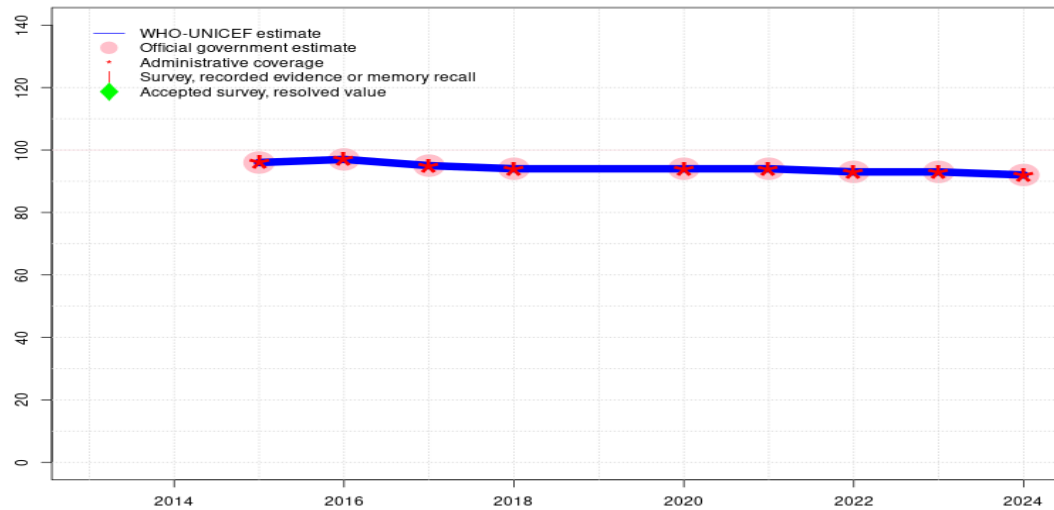
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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.

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Montenegro - IPV1

MNE - IPV1



Description:

2024: Estimate informed by reported data. 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. Programme reported 8 months vaccine stockout at the national and subnational levels. GoC=R+ D+

2023: Estimate informed by reported data. GoC=R+ D+

2022: Estimate informed by reported data. GoC=R+ D+

2021: Estimate informed by reported data. GoC=R+ D+

2020: Estimate informed by reported data. GoC=R+ D+

2019: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

2018: Estimate informed by reported data. GoC=R+ D+

2017: Estimate informed by reported data. GoC=R+ D+

2016: Estimate informed by reported data. GoC=R+ D+

2015: Estimate informed by reported data. GoC=R+ D+

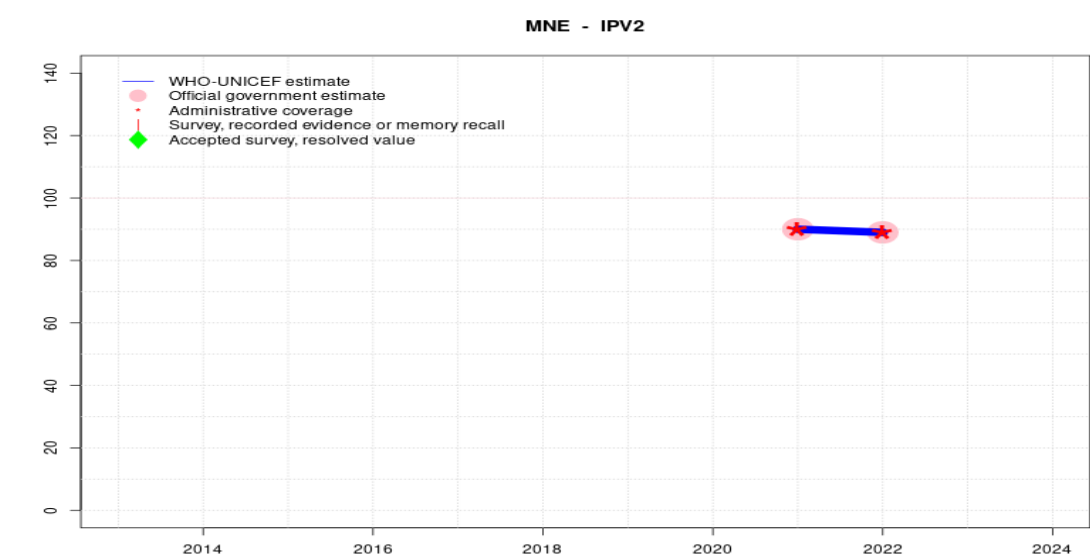
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Estimate	-	-	96	97	95	94	94	94	94	93	93	92
Estimate GoC	-	-	••	••	••	••	•	••	••	••	••	••
Official	-	-	96	97	95	94	-	94	94	93	93	92
Administrative	-	-	96	97	95	94	-	94	94	93	93	92
Survey	-	-	-	-	-	-	-	-	-	-	-	-

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.

Montenegro - IPV2



Description:

2022: Estimate informed by reported data. This is the last year IPV2 estimates are produced as the programme no longer recommends nor administers oral polio vaccine beginning in 2023. GoC=R+ D+

2021: Estimate informed by reported data. Second dose of inactivated polio vaccine introduced prior to 2021. GoC=R+ D+

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Estimate	-	-	-	-	-	-	-	-	90	89	-	-
Estimate GoC	-	-	-	-	-	-	-	-	●●	●●	-	-
Official	-	-	-	-	-	-	-	-	90	89	-	-
Administrative	-	-	-	-	-	-	-	-	90	89	-	-
Survey	-	-	-	-	-	-	-	-	-	-	-	-

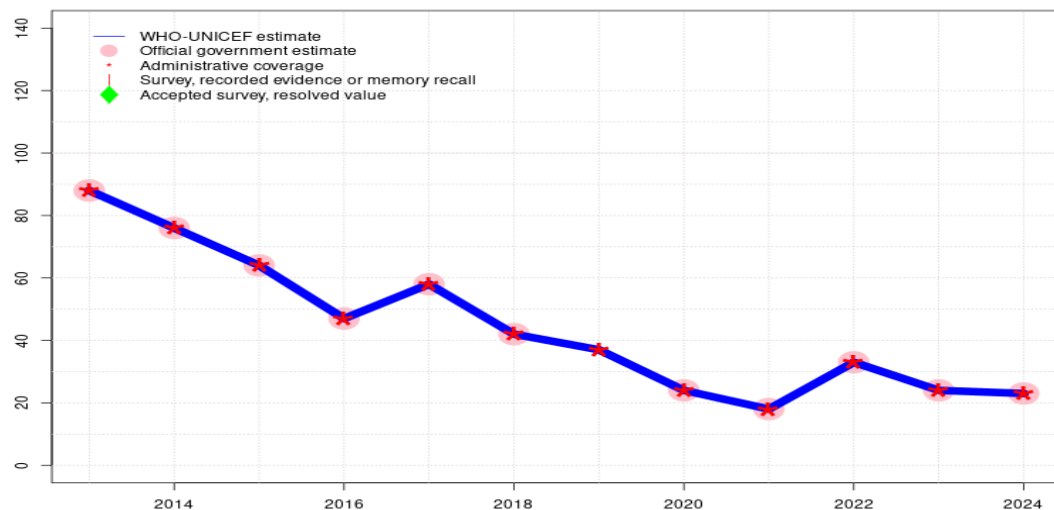
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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.

Montenegro - MCV1

MNE - MCV1



Description:

- 2024: Estimate informed by reported data. 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. GoC=R+ D+
- 2023: Estimate informed by reported data. GoC=R+ D+
- 2022: Estimate informed by reported data. Reported coverage reflects an 80 percent increase in doses administered from 2021 levels. GoC=R+ D+
- 2021: Estimate informed by reported data. Country indicates that MMR1 vaccination is often delayed. GoC=R+ D+
- 2020: Estimate informed by reported data. Unexplained decline in MCV1 coverage. GoC=R+ D+
- 2019: Estimate informed by reported administrative data. Estimate of 37 percent changed from previous revision value of 33 percent. GoC=R+
- 2018: Estimate informed by reported data. GoC=R+ D+
- 2017: Estimate informed by reported data. Increase possibly explained by time elapsed since the negative rumours of 2016. Please see prior year comments. GoC=R+ D+
- 2016: Estimate informed by reported data. Programme reports circulating rumours of linkages between measles containing vaccine and autism which may partly explain the decline in reported coverage between 2015 and 2016; otherwise, decline in measles coverage from 88 to 47 percent over the past several years is unexplained. GoC=R+ D+
- 2015: Estimate informed by reported data. Programme reports a two months stockout at the national level. GoC=R+ D+
- 2014: Estimate informed by reported data. GoC=R+ D+
- 2013: Estimate informed by reported data. GoC=R+ D+

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Estimate	88	76	64	47	58	42	37	24	18	33	24	23
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	88	76	64	47	58	42	-	24	18	33	24	23
Administrative	88	76	64	47	58	42	37	24	18	33	24	23
Survey	-	-	-	-	-	-	-	-	-	-	-	-

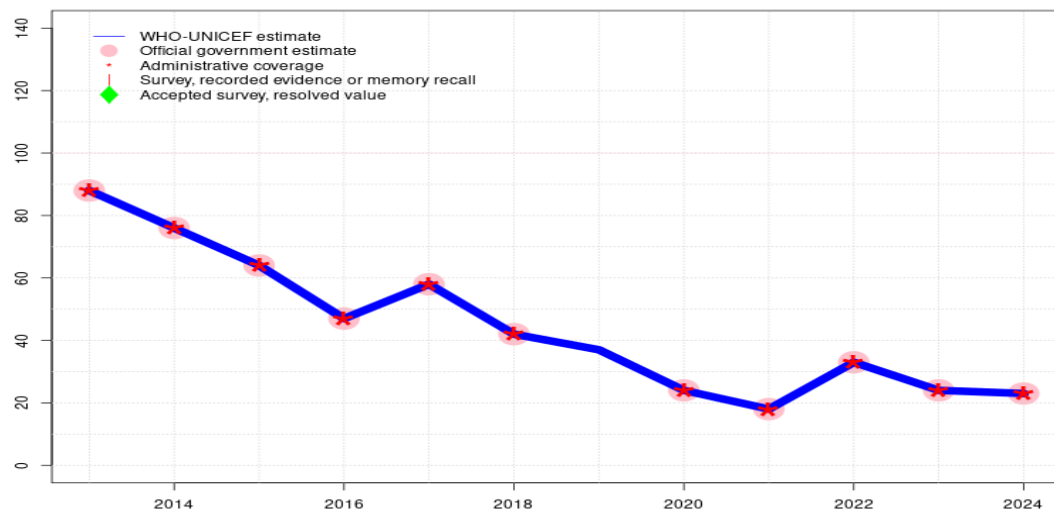
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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.

Montenegro - RCV1

MNE - RCV1



Description:

2024: Estimate based on estimated MCV1. 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. GoC=R+ D+

2023: Estimate based on estimated MCV1. GoC=R+ D+

2022: Estimate based on estimated MCV1. GoC=R+ D+

2021: Estimate based on estimated MCV1. GoC=R+ D+

2020: Estimate based on estimated MCV1. GoC=R+ D+

2019: Estimate based on estimated MCV1. Estimate of 37 percent changed from previous revision value of 33 percent. GoC=R+

2018: Estimate based on estimated MCV1. GoC=R+ D+

2017: Estimate based on estimated MCV1. Reported data excluded due to an increase from 47 percent to 58 percent with decrease to 42 percent. GoC=R+ D+

2016: Estimate based on estimated MCV1. Reported data excluded due to decline in reported coverage from 64 percent to 47 percent with increase to 58 percent. GoC=R+ D+

2015: Estimate based on estimated MCV1. GoC=R+ D+

2014: Estimate based on estimated MCV1. GoC=R+ D+

2013: Estimate based on estimated MCV1. GoC=R+ D+

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Estimate	88	76	64	47	58	42	37	24	18	33	24	23
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	88	76	64	47	58	42	-	24	18	33	24	23
Administrative	88	76	64	47	58	42	-	24	18	33	24	23
Survey	-	-	-	-	-	-	-	-	-	-	-	-

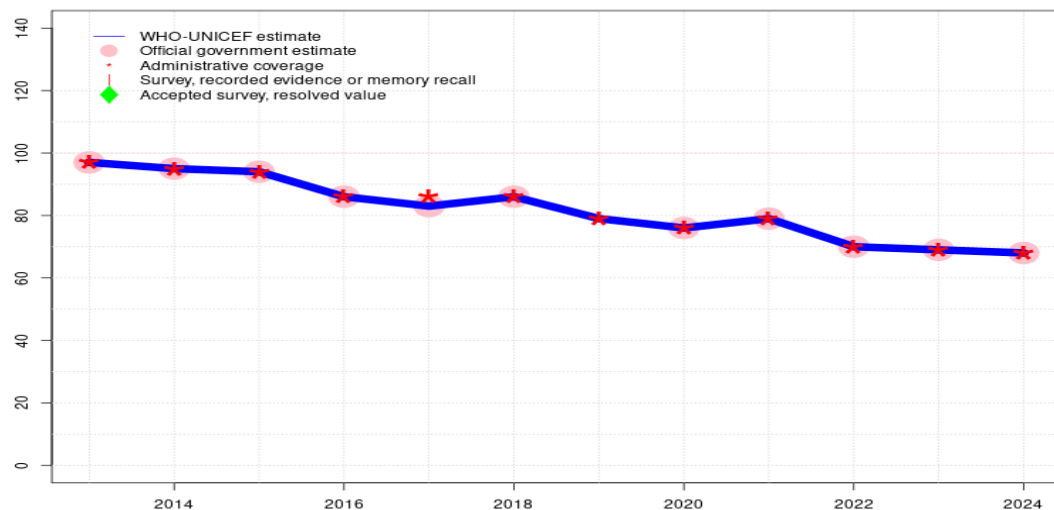
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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.

Montenegro - MCV2

MNE - MCV2



Description:

- 2024: Estimate informed by reported data. 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. GoC=R+ D+
- 2023: Estimate informed by reported data. Reported coverage may include children receiving their first dose of MCV. Estimate challenged by: D-
- 2022: Estimate informed by reported data. Estimate challenged by: D-
- 2021: Estimate informed by reported data. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Estimate challenged by: D-
- 2019: Estimate informed by reported administrative data. Estimate of 79 percent changed from previous revision value of 81 percent. GoC=R+
- 2018: Estimate informed by reported data. WHO and UNICEF are aware that estimated coverage for the second dose of measles containing vaccine is greater than that for the first dose during 2015-2018. The difference in coverage levels may be partly explained by the recommended age for the second dose at 6 years. GoC=R+ D+
- 2017: Estimate informed by reported data. GoC=R+ D+
- 2016: Estimate informed by reported data. Programme reports circulating rumours of linkages between measles containing vaccine and autism which may partly explain the decline in reported coverage between 2015 and 2016. GoC=R+ D+
- 2015: Estimate informed by reported data. Programme reports a two months stockout at the national level. GoC=R+ D+
- 2014: Estimate informed by reported data. GoC=R+ D+
- 2013: Estimate informed by reported data. Estimate of 97 percent changed from previous revision value of 94 percent. GoC=R+ D+

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Estimate	97	95	94	86	83	86	79	76	79	70	69	68
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●	●	●	●	●●
Official	97	95	94	86	83	86	-	76	79	70	69	68
Administrative	97	95	94	86	86	86	79	76	79	70	69	68
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.

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 Montenegro Multiple Indicator Cluster Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Evidence seen
BCG	Recall	12.2	12-23 m	-	90
BCG	Record	87.1	12-23 m	-	90
BCG	Record or Recall	99.4	12-23 m	255	90
BCG	Record or Recall<12m	99.4	12-23 m	255	90
DTP1	Recall	7.1	12-23 m	-	90
DTP1	Record	89.9	12-23 m	-	90
DTP1	Record or Recall	97	12-23 m	255	90
DTP1	Record or Recall<12m	97	12-23 m	255	90
DTP3	Recall	6.4	12-23 m	-	90
DTP3	Record	85	12-23 m	-	90
DTP3	Record or Recall	91.4	12-23 m	255	90
DTP3	Record or Recall<12m	84.5	12-23 m	255	90
HIB1	Recall	5.7	12-23 m	-	90

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

HIB1	Record	87.3	12-23 m	-	90
HIB1	Record or Recall	93.1	12-23 m	255	90
HIB1	Record or Recall<12m	92.1	12-23 m	255	90
HIB3	Recall	5.5	12-23 m	-	90
HIB3	Record	80.7	12-23 m	-	90
HIB3	Record or Recall	86.3	12-23 m	255	90
HIB3	Record or Recall<12m	80.3	12-23 m	255	90
MCV1	Recall	8.5	12-23 m	-	90
MCV1	Record	67.1	12-23 m	-	90
MCV1	Record or Recall	75.6	12-23 m	255	90
POL1	Recall	7.8	12-23 m	-	90
POL1	Record	86	12-23 m	-	90
POL1	Record or Recall	93.8	12-23 m	255	90
POL1	Record or Recall<12m	92.8	12-23 m	255	90
POL3	Recall	6.9	12-23 m	-	90
POL3	Record	79.5	12-23 m	-	90
POL3	Record or Recall	86.4	12-23 m	255	90
POL3	Record or Recall<12m	80.3	12-23 m	255	90

2011 Montenegro Multiple Indicator Cluster Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Evidence seen
BCG	Record or Recall<12m	98.1	24-35 m	267	-
DTP1	Record or Recall<12m	96.6	24-35 m	267	-
DTP3	Record or Recall<12m	81.4	24-35 m	267	-
HIB1	Record or Recall<12m	93.5	24-35 m	267	-
HIB3	Record or Recall<12m	80.3	24-35 m	267	-
MCV1	Record or Recall<24m	92.2	24-35 m	267	-
POL1	Record or Recall<12m	93.4	24-35 m	267	-
POL3	Record or Recall<12m	79.9	24-35 m	267	-