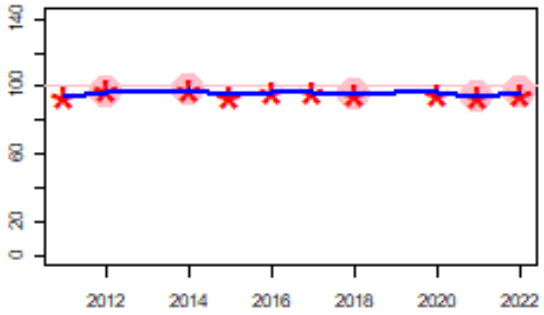
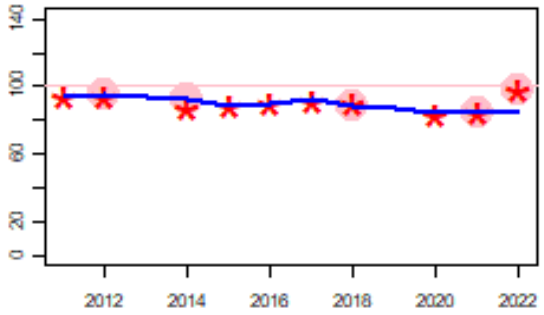
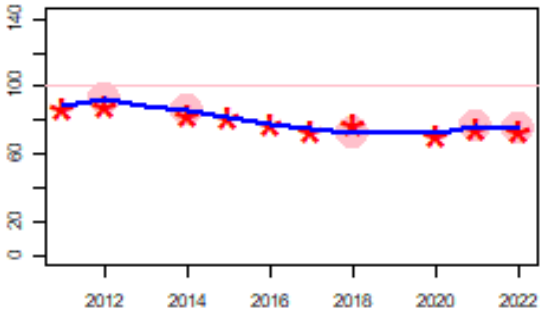
BCG



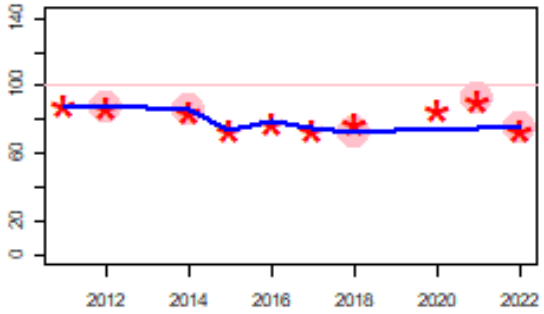
DTP1



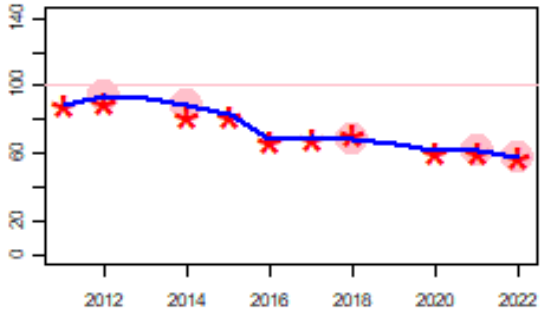
DTP3



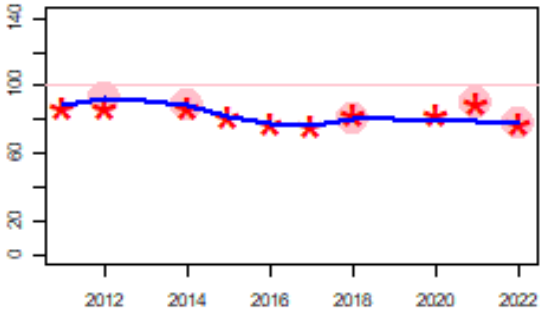
Pol3



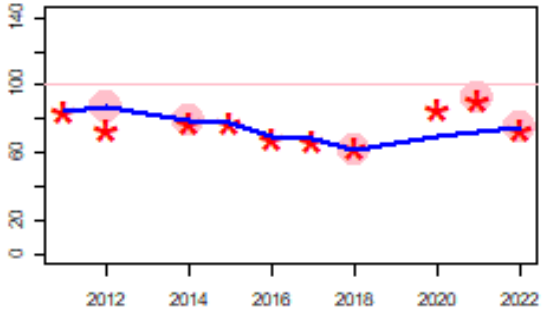
MCV1



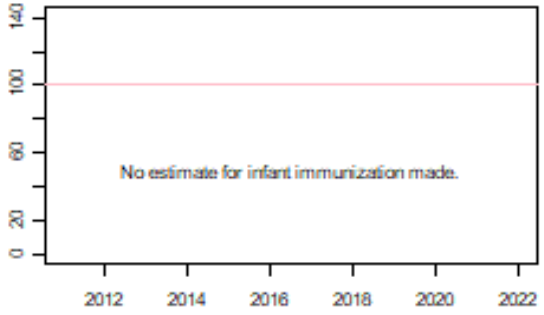
HepB3



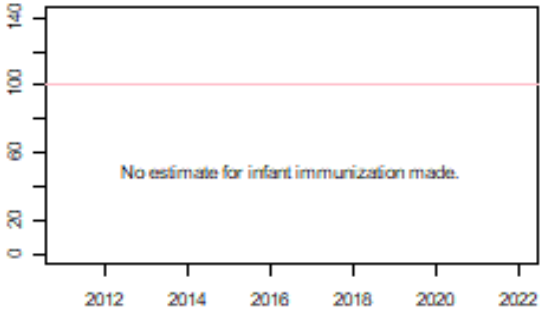
Hib3



RotaC



PcV3



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 the published and grey literature. Based on these data, with due consideration to potential biases and the views of local experts, WHO and UNICEF attempt to distinguish between situations where the available empirical data accurately reflect immunization system performance and those where the data are likely to be compromised and present a misleading view of immunization coverage while jointly estimating the most likely coverage levels for each country.

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. WHO and UNICEF estimates of national infant immunization coverage: methods and processes.
*Burton et al. 2012. A formal representation of the WHO and UNICEF estimates of national immunization coverage: a computational logic approach.
*Brown et al. 2013. An introduction to the grade of confidence used to characterize uncertainty around the WHO and UNICEF estimates of national immunization coverage.

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 12-23 months 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 the period of data collection.

ABBREVIATIONS

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 among countries. For countries utilizing IPV containing vaccine use only, i.e., no recommended dose of OPV, the 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.

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. Co verage 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 nor are the data represented in the accompanying graph and data table.

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.

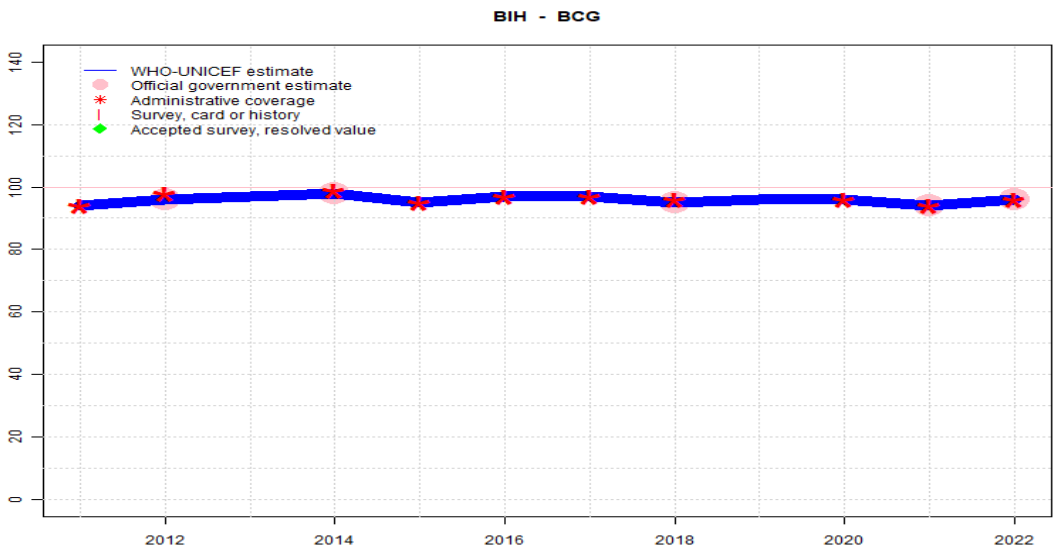
Hib3: percentage of surviving infants who received the 3rd dose of Haemophilus influenzae type b containing vaccine.

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.

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.

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.

Bosnia and Herzegovina - BCG



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	94	96	97	98	95	97	97	95	96	96	94	96
Estimate GoC	●●●	●●●	●	●	●●	●●	●	●●	●	●●	●●	●●
Official	NA	96	NA	98	NA	NA	NA	95	NA	NA	94	96
Administrative	94	98	NA	99	95	97	97	96	NA	96	94	96
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2022 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:

2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

2021: Estimate informed by reported data. Estimate of 94 percent changed from previous revision value of 95 percent. GoC=R+ D+

2020: Estimate informed by reported administrative data. Estimate of 96 percent changed from previous revision value of 95 percent. GoC=R+ D+

2019: Estimate informed by interpolation between reported data. Estimate of 96 percent changed from previous revision value of 95 percent. GoC=No accepted empirical data

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

2017: Estimate informed by reported administrative data. Programme reports one month national stockout and disruption in services because of district level stockouts. Estimate challenged by: D-

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

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

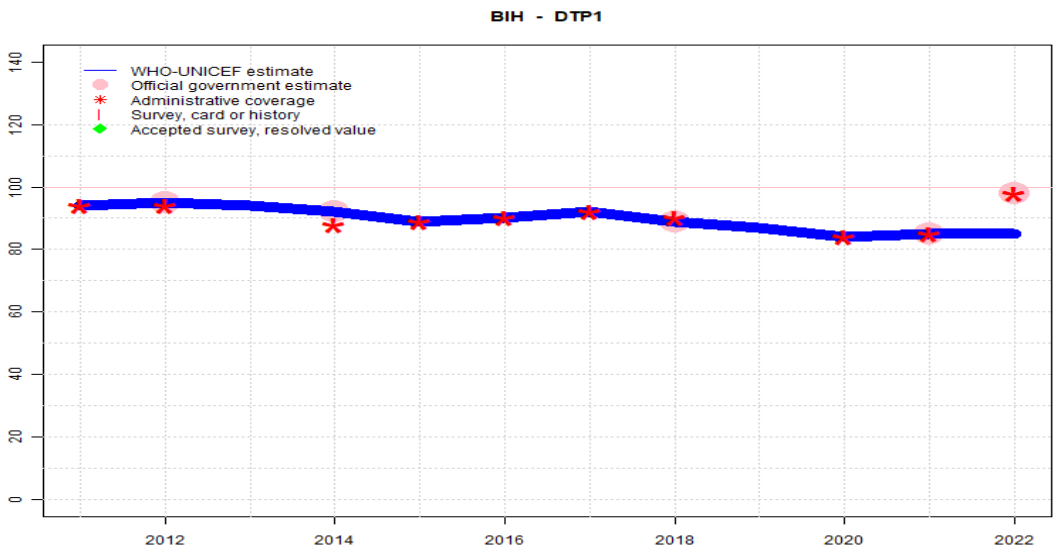
2014: Estimate informed by reported data. Estimate challenged by: D-

2013: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

2012: Estimate informed by reported data. GoC=R+ S+ D+

2011: Estimate informed by reported administrative data. GoC=R+ S+ D+

Bosnia and Herzegovina - DTP1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	94	95	94	92	89	90	92	89	87	84	85	85
Estimate GoC	●●●	●●●	●	●●	●●	●●	●	●●	●	●●	●●	●
Official	NA	95	NA	92	NA	NA	NA	89	NA	NA	85	98
Administrative	94	94	NA	88	89	90	92	90	NA	84	85	98
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2022 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:

2022: Estimate based on extrapolation from data reported by national government. Reported data excluded due to sudden change in coverage from 85 level to 98 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Programme reports two months vaccine stockout at national and subnational levels. Estimate challenged by: D-

2021: Estimate informed by reported data. Estimate of 85 percent changed from previous revision value of 89 percent. GoC=R+ D+

2020: Estimate informed by reported administrative data. Estimate of 84 percent changed from previous revision value of 89 percent. GoC=R+ D+

2019: Estimate informed by interpolation between reported data. Estimate of 87 percent changed from previous revision value of 89 percent. GoC=No accepted empirical data

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

2017: Estimate informed by reported administrative data. Programme reports one month national stockout and disruption in services because of district level stockouts. Estimate challenged by: D-

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

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

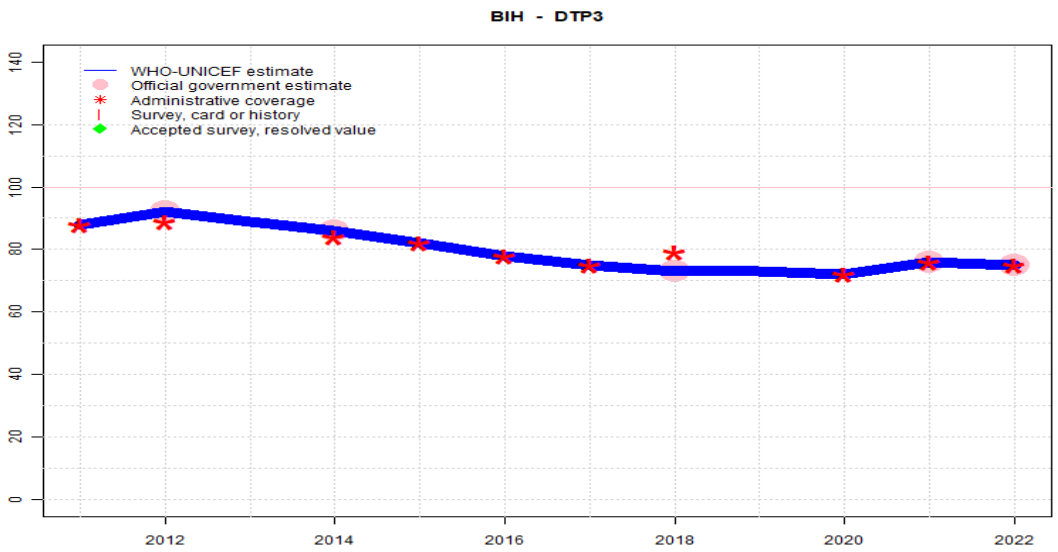
2014: Estimate informed by reported data. Programme reports a six month stockout of DTP containing vaccine. GoC=R+ D+

2013: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

2012: Estimate informed by reported data. GoC=R+ S+ D+

2011: Estimate informed by reported administrative data. GoC=R+ S+ D+

Bosnia and Herzegovina - DTP3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	88	92	89	86	82	78	75	73	73	72	76	75
Estimate GoC	●●●	●●●	●	●●	●●	●●	●	●●	●	●●	●●	●●
Official	NA	92	NA	86	NA	NA	NA	73	NA	NA	76	75
Administrative	88	89	NA	84	82	78	75	79	NA	72	76	75
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2022 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:

2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Programme reports two months vaccine stockout at national and subnational levels. GoC=R+ D+

2021: Estimate informed by reported data. Estimate of 76 percent changed from previous revision value of 73 percent. GoC=R+ D+

2020: Estimate informed by reported administrative data. Estimate of 72 percent changed from previous revision value of 73 percent. 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 administrative data. Programme reports one month national stockout and disruption in services because of district level stockouts. Estimate challenged by: D-

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

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

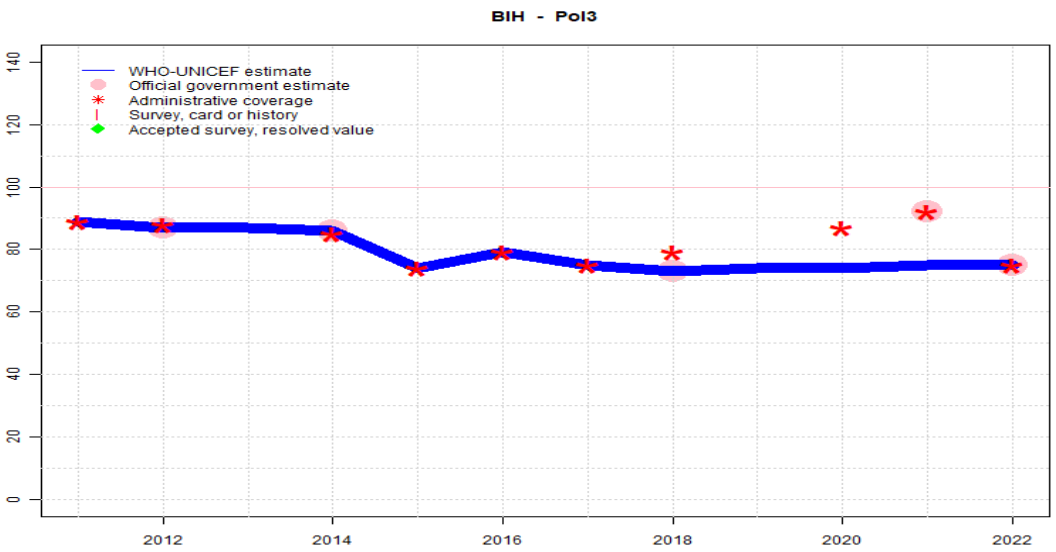
2014: Estimate informed by reported data. Programme reports a six month stockout of DTP containing vaccine. GoC=R+ D+

2013: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

2012: Estimate informed by reported data. GoC=R+ S+ D+

2011: Estimate informed by reported administrative data. GoC=R+ S+ D+

Bosnia and Herzegovina - Pol3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	89	87	87	86	74	79	75	73	74	74	75	75
Estimate GoC	●●●	●●●	●	●●	●●	●●	●	●●	●	●	●	●●
Official	NA	87	NA	86	NA	NA	NA	73	NA	NA	92	75
Administrative	89	88	NA	85	74	79	75	79	NA	87	92	75
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2022 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:

2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage.. GoC=R+ D+

2021: Estimate informed by interpolation between reported data. Reported data excluded. Unexplained differences in reported coverage for antigens recommended at the same age and indicated in the schedule as a combination vaccine DTP-Hib-IPV. Estimate of 75 percent changed from previous revision value of 73 percent. Estimate challenged by: D-

2020: Estimate informed by interpolation between reported data. Reported data excluded. Unexplained differences in reported coverage for antigens recommended at the same age and indicated in the schedule as a combination vaccine DTP-Hib-IPV. Estimate of 74 percent changed from previous revision value of 73 percent. Estimate challenged by: D-

2019: Estimate informed by interpolation between reported data. Estimate of 74 percent changed from previous revision value of 73 percent. GoC=No accepted empirical data

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

2017: Estimate informed by reported administrative data. Programme reports one month national stockout and disruption in services because of district level stockouts. Estimate challenged by: D-

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

2015: Estimate informed by reported administrative data. Programme reports a 5-month stockout of OPV at national level. GoC=R+ D+

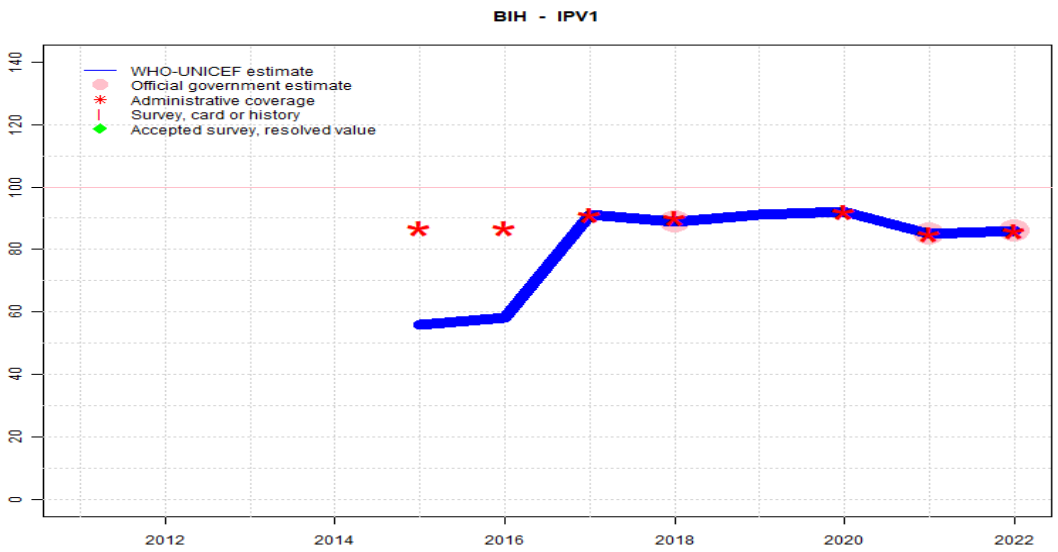
2014: Estimate informed by reported data. Programme reports a six month stockout of IPV and two months stockout of OPV. GoC=R+ D+

2013: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

2012: Estimate informed by reported data. GoC=R+ S+ D+

2011: Estimate informed by reported administrative data. GoC=R+ S+ D+

Bosnia and Herzegovina - IPV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	56	58	91	89	91	92	85	86
Estimate GoC	NA	NA	NA	NA	•	•	•	••	•	•	••	••
Official	NA	NA	NA	NA	NA	NA	NA	89	NA	NA	85	86
Administrative	NA	NA	NA	NA	87	87	91	90	NA	92	85	86
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2022 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:

Estimates for a dose of inactivated polio vaccine (IPV) begin in 2015 following the Global Polio Eradication Initiative's Polio Eradication and Endgame Strategic Plan: 2013-2018 which recommended at least one full dose or two fractional doses of IPV into routine immunization schedules as a strategy to mitigate the potential consequences should any re-emergence of type 2 poliovirus occur following the planned withdrawal of Sabin type 2 strains from oral polio vaccine (OPV).

2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

2021: Estimate informed by reported data. Estimate of 85 percent changed from previous revision value of 89 percent. GoC=R+ D+

2020: Estimate informed by reported administrative data. Estimate of 92 percent changed from previous revision value of 89 percent. Estimate challenged by: D-

2019: Estimate informed by interpolation between reported data. Estimate of 91 percent changed from previous revision value of 89 percent. GoC=No accepted empirical data

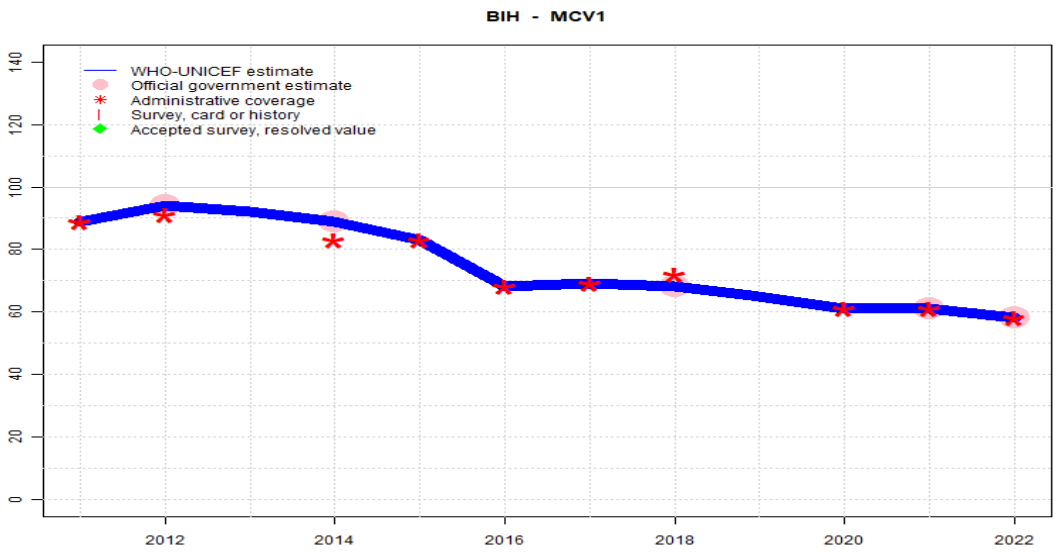
2018: Estimate informed by reported data. GoC=R+ D+

2017: Estimate informed by reported administrative data. Programme reports one month national stockout and disruption in services because of district level stockouts. IPV is now recommended in entire country. Estimate challenged by: D-

2016: Programme reports 87 percent coverage in 67 percent of the target population. Estimate is based on annualized coverage achieved in the national target population. Estimate challenged by: R-

2015: Programme reports 87 percent coverage achieved in 65 percent of the national target population. Estimate is based on coverage achieved in the total annual infant population. IPV is used subnationally since 2008. Estimate challenged by: R-

Bosnia and Herzegovina - MCV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	89	94	92	89	83	68	69	68	65	61	61	58
Estimate GoC	●●●	●●●	●	●	●●	●●	●	●●	●	●●	●●	●●
Official	NA	94	NA	89	NA	NA	NA	68	NA	NA	61	58
Administrative	89	91	NA	83	83	68	69	72	NA	61	61	58
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2022 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.

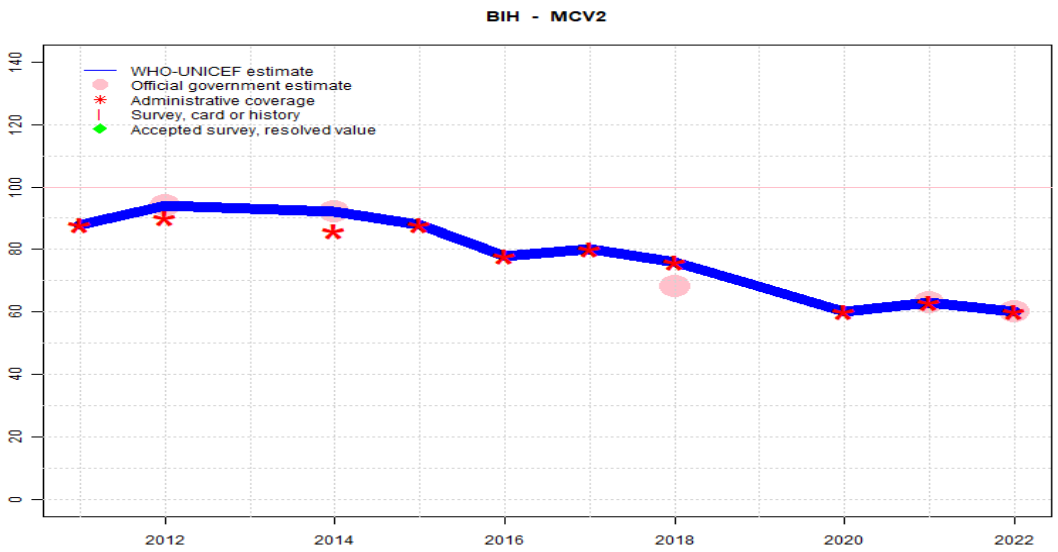
● There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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:

2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+
2021: Estimate informed by reported data. Estimate of 61 percent changed from previous revision value of 68 percent. GoC=R+ D+
2020: Estimate informed by reported administrative data. Estimate of 61 percent changed from previous revision value of 68 percent. GoC=R+ D+
2019: Estimate informed by interpolation between reported data. Estimate of 65 percent changed from previous revision value of 68 percent. GoC=No accepted empirical data
2018: Estimate informed by reported data. GoC=R+ D+
2017: Estimate informed by reported administrative data. Estimate challenged by: D-
2016: Estimate informed by reported administrative data. GoC=R+ D+
2015: Estimate informed by reported administrative data. GoC=R+ D+
2014: Estimate informed by reported data. Estimate challenged by: D-
2013: Estimate informed by interpolation between reported data. GoC=No accepted empirical data
2012: Estimate informed by reported data. GoC=R+ S+ D+
2011: Estimate informed by reported administrative data. GoC=R+ S+ D+

Bosnia and Herzegovina - MCV2



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	88	94	93	92	88	78	80	76	68	60	63	60
Estimate GoC	●●	●●	●	●	●●	●●	●	●●	●	●●	●●	●●
Official	NA	94	NA	92	NA	NA	NA	68	NA	NA	63	60
Administrative	88	90	NA	86	88	78	80	76	NA	60	63	60
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2022 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.

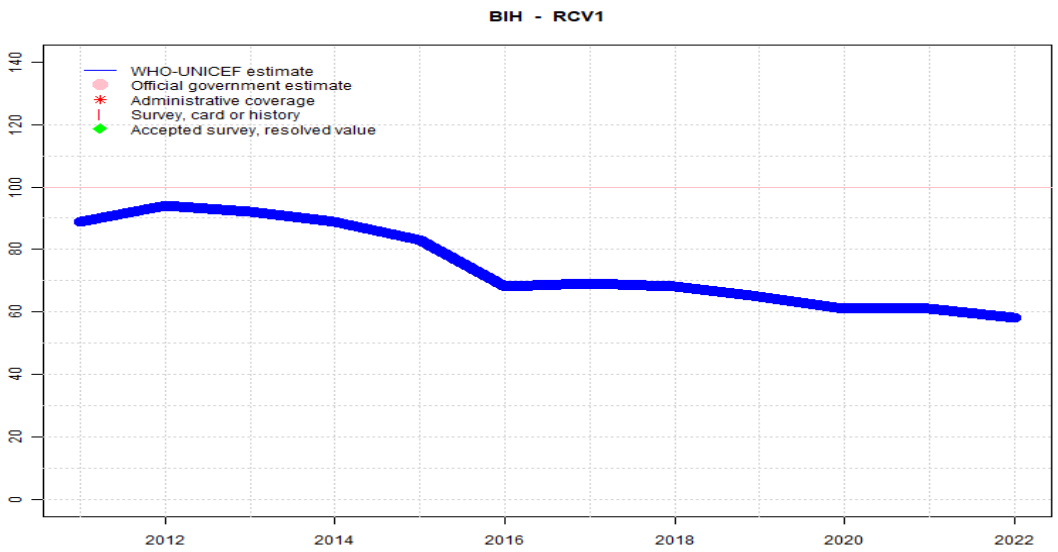
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

Coverage estimates for the second dose of measles containing vaccine are for children by the nationally recommended age.

2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+
2021: Estimate informed by reported data. Estimate of 63 percent changed from previous revision value of 76 percent. GoC=R+ D+
2020: Estimate informed by reported administrative data. Estimate of 60 percent changed from previous revision value of 76 percent. GoC=R+ D+
2019: Estimate informed by interpolation between reported data. Estimate of 68 percent changed from previous revision value of 76 percent. GoC=No accepted empirical data
2018: Estimate informed by reported administrative data. Estimate based on administrative reported coverage. Inconsistent adjustment from administrative coverage to official. GoC=R+ D+
2017: Estimate informed by reported administrative data. Estimate challenged by: D-
2016: Estimate informed by reported administrative data. GoC=R+ D+
2015: Estimate informed by reported administrative data. GoC=R+ D+
2014: Estimate informed by reported data. Estimate challenged by: D-
2013: Estimate informed by interpolation between reported data. GoC=No accepted empirical data
2012: Estimate informed by reported data. GoC=R+ D+
2011: Estimate informed by reported administrative data. GoC=R+ D+

Bosnia and Herzegovina - RCV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	89	94	92	89	83	68	69	68	65	61	61	58
Estimate GoC	●●●	●●●	●	●	●●	●●	●	●●	●	●●	●●	●●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2022 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.

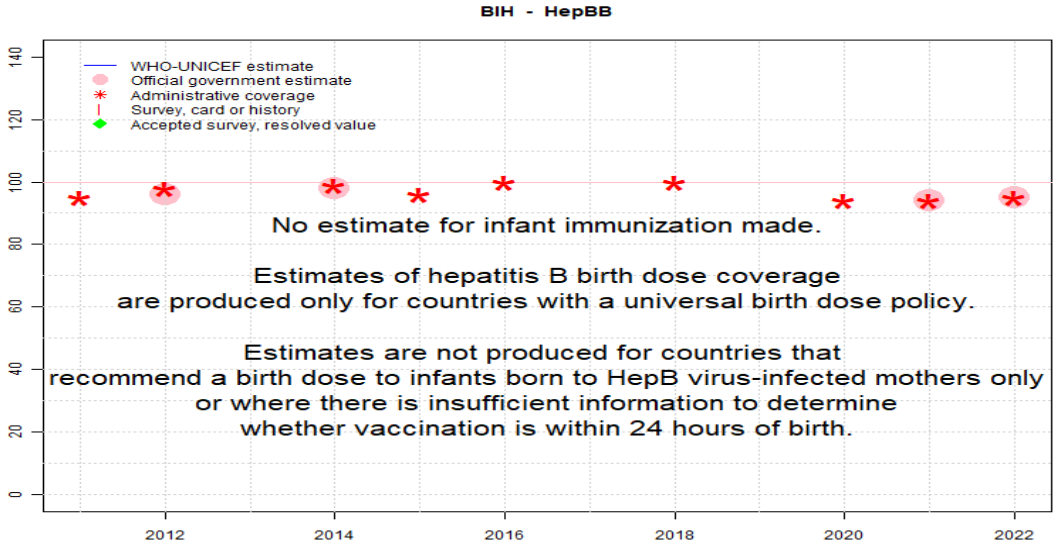
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

For this revision, coverage estimates for the first dose of rubella containing vaccine are based on WHO and UNICEF estimates of coverage of measles containing vaccine. Nationally reported coverage of rubella containing vaccine is not taken into consideration nor are they represented in the the accompanying graph and data table.

2022: Estimate based on estimated MCV1. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+
2021: Estimate based on estimated MCV1. Estimate of 61 percent changed from previous revision value of 68 percent. GoC=R+ D+
2020: Estimate based on estimated MCV1. Estimate of 61 percent changed from previous revision value of 68 percent. GoC=R+ D+
2019: Estimate based on estimated MCV1. Estimate of 65 percent changed from previous revision value of 68 percent. GoC=No accepted empirical data
2018: Estimate based on estimated MCV1. GoC=R+ D+
2017: Estimate based on estimated MCV1. Estimate challenged by: D-
2016: Estimate based on estimated MCV1. GoC=R+ D+
2015: Estimate based on estimated MCV1. GoC=R+ D+
2014: Estimate based on estimated MCV1. Estimate challenged by: D-
2013: Estimate based on estimated MCV1. GoC=No accepted empirical data
2012: Estimate based on estimated MCV1. GoC=R+ S+ D+
2011: Estimate based on estimated MCV1. GoC=R+ S+ D+

Bosnia and Herzegovina - HepBB



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	96	NA	98	NA	NA	NA	NA	NA	NA	94	95
Administrative	95	98	NA	99	96	100	NA	100	NA	94	94	95
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

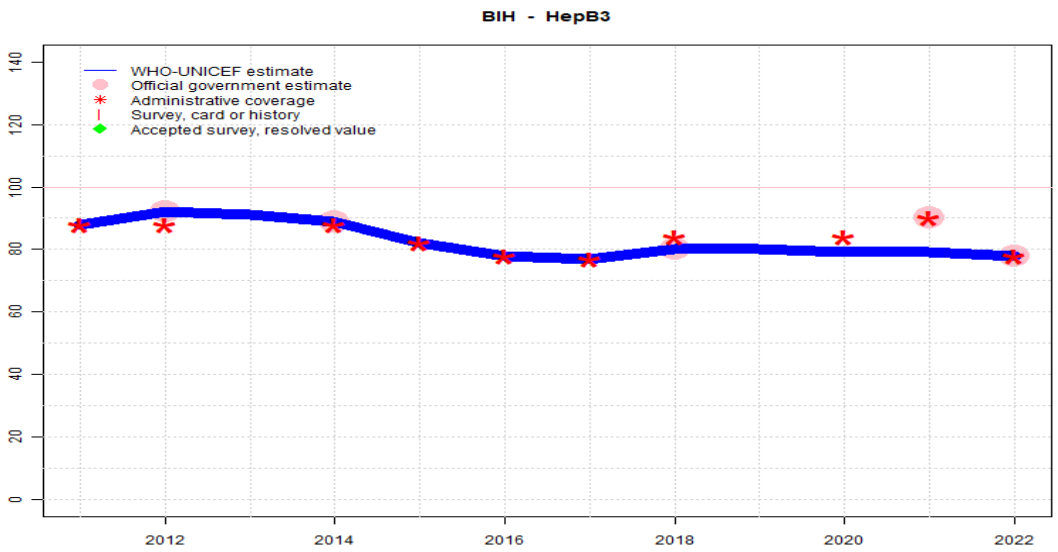
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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.

Bosnia and Herzegovina - HepB3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	88	92	91	89	82	78	77	80	80	79	79	78
Estimate GoC	••	••	•	••	••	••	•	••	•	•	•	••
Official	NA	92	NA	89	NA	NA	NA	80	NA	NA	90	78
Administrative	88	88	NA	88	82	78	77	84	NA	84	90	78
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2022 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:

2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage.. GoC=R+ D+

2021: Estimate informed by interpolation between reported data. Reported data excluded. Unexplained differences in reported coverage for antigens recommended at the same age. Estimate of 79 percent changed from previous revision value of 80 percent. Estimate challenged by: D-

2020: Estimate informed by interpolation between reported data. Reported data excluded. Unexplained differences in reported coverage for antigens recommended at the same age. Estimate of 79 percent changed from previous revision value of 80 percent. Estimate challenged by: 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 administrative data. Estimate challenged by: D-

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

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

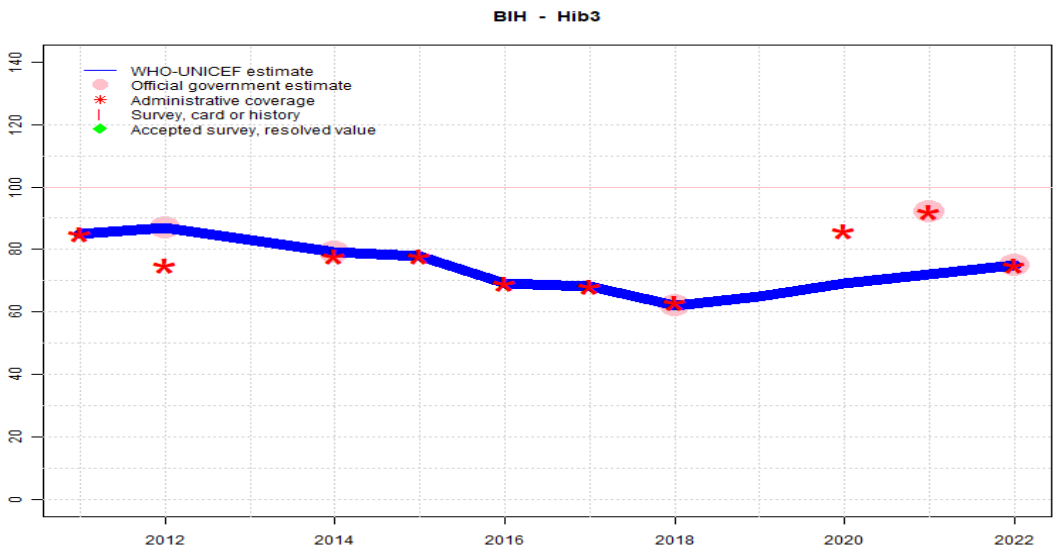
2014: Estimate informed by reported data. Programme reports a two months stockout of HepB containing vaccine. GoC=R+ D+

2013: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

2012: Estimate informed by reported data. GoC=R+ D+

2011: Estimate informed by reported administrative data. GoC=R+ D+

Bosnia and Herzegovina - Hib3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	85	87	83	79	78	69	68	62	65	69	72	75
Estimate GoC	●●	●	●	●●	●●	●	●●	●	●	●	●	●●
Official	NA	87	NA	79	NA	NA	NA	62	NA	NA	92	75
Administrative	85	75	NA	78	78	69	68	63	NA	86	92	75
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2022 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:

2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage.. GoC=R+ D+

2021: Estimate informed by interpolation between reported data. Reported data excluded. Unexplained differences in reported coverage for antigens recommended at the same age and indicated in the schedule as a combination vaccine DTP-Hib-IPV. Estimate of 72 percent changed from previous revision value of 62 percent. Estimate challenged by: D-

2020: Estimate informed by interpolation between reported data. Reported data excluded. Unexplained differences in reported coverage for antigens recommended at the same age and indicated in the schedule as a combination vaccine DTP-Hib-IPV. Estimate of 69 percent changed from previous revision value of 62 percent. Estimate challenged by: D-

2019: Estimate informed by interpolation between reported data. Estimate of 65 percent changed from previous revision value of 62 percent. GoC=No accepted empirical data

2018: Estimate informed by reported data. Estimate challenged by: D-

2017: Estimate informed by reported administrative data. Programme reports one month national stockout and disruption in services because of district level stockouts. GoC=R+ D+

2016: Estimate informed by reported administrative data. Estimate challenged by: D-

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

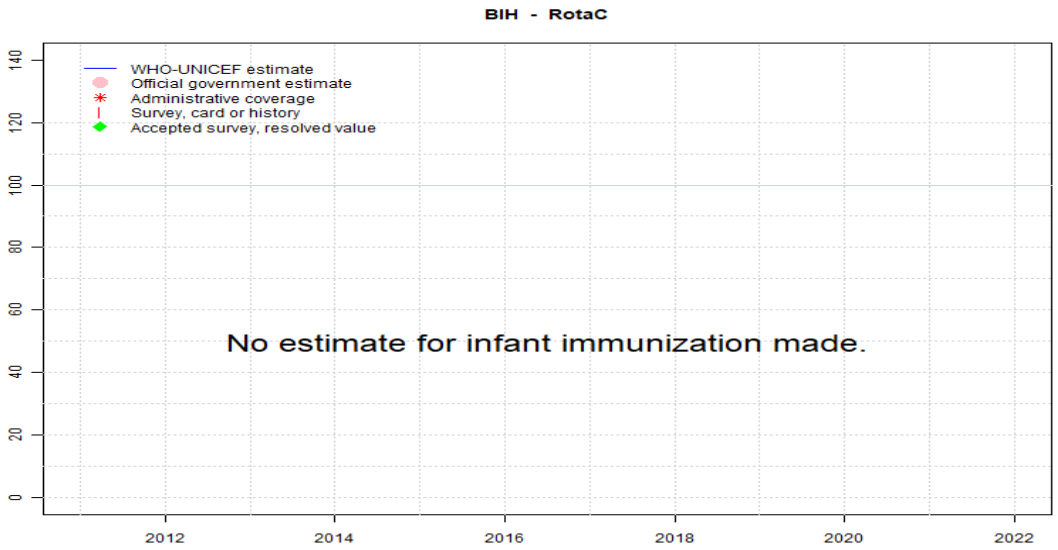
2014: Estimate informed by reported data. Programme reports a six month stockout of Hib containing vaccine. GoC=R+ D+

2013: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

2012: Estimate informed by reported data. Estimate challenged by: D-

2011: Estimate informed by reported administrative data. GoC=R+ D+

Bosnia and Herzegovina - RotaC



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

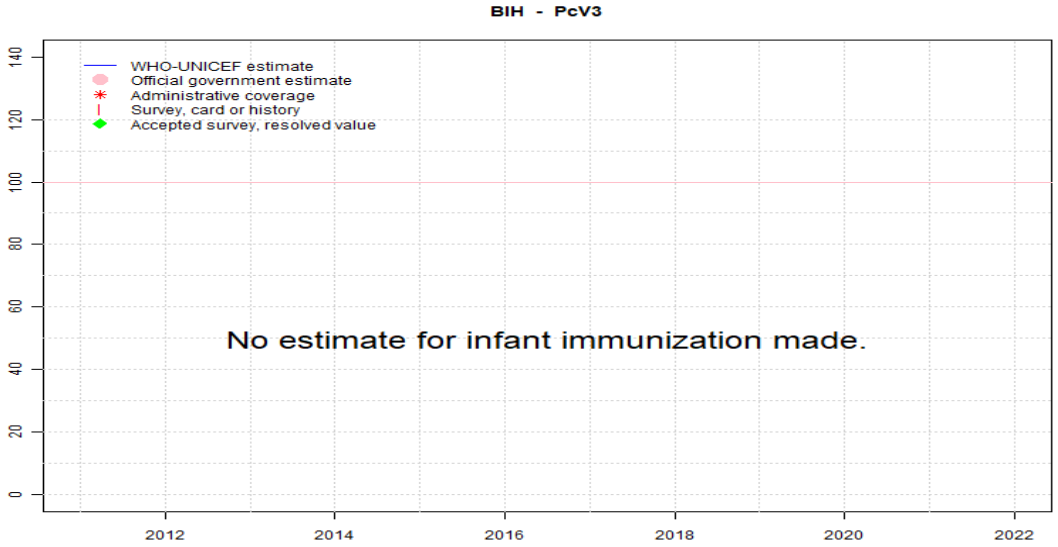
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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.

Bosnia and Herzegovina - PcV3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2022 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.

Bosnia and Herzegovina - survey details

NOTE: A survey to measure vaccination coverage for infants (i.e., children aged 0 to 11 months) will sample children aged 12 to 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 to 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 1 or 2 years prior to the survey field work.

2010 The Bosnia and Herzegovina Multiple Indicator Cluster Survey 2011–2012

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	97.8	18-29 m	-	91
BCG	Card	89.3	18-29 m	-	91
BCG	Card or History	99.3	18-29 m	463	91
BCG	History	10	18-29 m	-	91
DTP1	C or H <12 months	95.2	18-29 m	-	91
DTP1	Card	88.9	18-29 m	-	91
DTP1	Card or History	97.5	18-29 m	463	91
DTP1	History	8.6	18-29 m	-	91
DTP3	C or H <12 months	85.5	18-29 m	-	91
DTP3	Card	84.8	18-29 m	-	91
DTP3	Card or History	92.2	18-29 m	463	91
DTP3	History	7.4	18-29 m	-	91
HepBB	C or H <12 months	95.4	18-29 m	-	91
HepBB	Card	90.8	18-29 m	-	91
HepBB	Card or History	96.8	18-29 m	463	91
HepBB	History	6	18-29 m	-	91
MCV1	C or H <18 months	79.9	18-29 m	-	91
MCV1	Card	80.2	18-29 m	-	91
MCV1	Card or History	87.8	18-29 m	463	91
MCV1	History	7.6	18-29 m	-	91
Pol1	C or H <12 months	95.1	18-29 m	-	91
Pol1	Card	87.9	18-29 m	-	91
Pol1	Card or History	96	18-29 m	463	91
Pol1	History	8.2	18-29 m	-	91
Pol3	C or H <12 months	85.1	18-29 m	-	91
Pol3	Card	83.7	18-29 m	-	91
Pol3	Card or History	91.2	18-29 m	463	91
Pol3	History	7.5	18-29 m	-	91

2004 Bosnia and Herzegovina Multiple Indicator Cluster Survey 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	95.8	18-29 m	636	77
BCG	Card	73.9	18-29 m	636	77
BCG	Card or History	96.5	18-29 m	636	77
BCG	History	22.6	18-29 m	636	77
DTP1	C or H <12 months	93.4	18-29 m	636	77
DTP1	Card	76	18-29 m	636	77
DTP1	Card or History	94	18-29 m	636	77
DTP1	History	18	18-29 m	636	77
DTP3	C or H <12 months	78	18-29 m	636	77
DTP3	Card	72	18-29 m	636	77
DTP3	Card or History	86.2	18-29 m	636	77
DTP3	History	14.1	18-29 m	636	77
MCV1	C or H <12 months	75	18-29 m	636	77
MCV1	Card	65.4	18-29 m	636	77
MCV1	Card or History	78	18-29 m	636	77
MCV1	History	12.6	18-29 m	636	77
Pol1	C or H <12 months	93.7	18-29 m	636	77
Pol1	Card	75.7	18-29 m	636	77
Pol1	Card or History	94.5	18-29 m	636	77
Pol1	History	18.8	18-29 m	636	77
Pol3	C or H <12 months	79	18-29 m	636	77
Pol3	Card	72.2	18-29 m	636	77
Pol3	Card or History	86.4	18-29 m	636	77
Pol3	History	14.1	18-29 m	636	77

1999 Household Survey of Women and Children, Bosnia and Herzegovina 2000 (MICS), 2001, Draft

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen

Bosnia and Herzegovina - survey details

BCG	C or H <12 months	95.2	12-23 m	480	79
BCG	Card	78.3	12-23 m	480	79
BCG	Card or History	95.2	12-23 m	480	79
BCG	History	16.9	12-23 m	480	79
DTP1	C or H <12 months	91.3	12-23 m	480	79
DTP1	Card	77.9	12-23 m	480	79
DTP1	Card or History	92.5	12-23 m	480	79
DTP1	History	14.6	12-23 m	480	79
DTP3	C or H <12 months	84.8	12-23 m	480	79
DTP3	Card	75.2	12-23 m	480	79
DTP3	Card or History	87.7	12-23 m	480	79
DTP3	History	12.5	12-23 m	480	79
MCV1	C or H <12 months	24.6	12-23 m	480	79
MCV1	Card	53.5	12-23 m	480	79
MCV1	Card or History	64.4	12-23 m	480	79
MCV1	History	10.8	12-23 m	480	79
Pol1	C or H <12 months	92.7	12-23 m	480	79
Pol1	Card	78.1	12-23 m	480	79
Pol1	Card or History	93.8	12-23 m	480	79
Pol1	History	15.6	12-23 m	480	79
Pol3	C or H <12 months	82.1	12-23 m	-	79
Pol3	Card	75.6	12-23 m	480	79
Pol3	Card or History	85.2	12-23 m	480	79
Pol3	History	9.6	12-23 m	480	79

Bosnia and Herzegovina - survey details

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