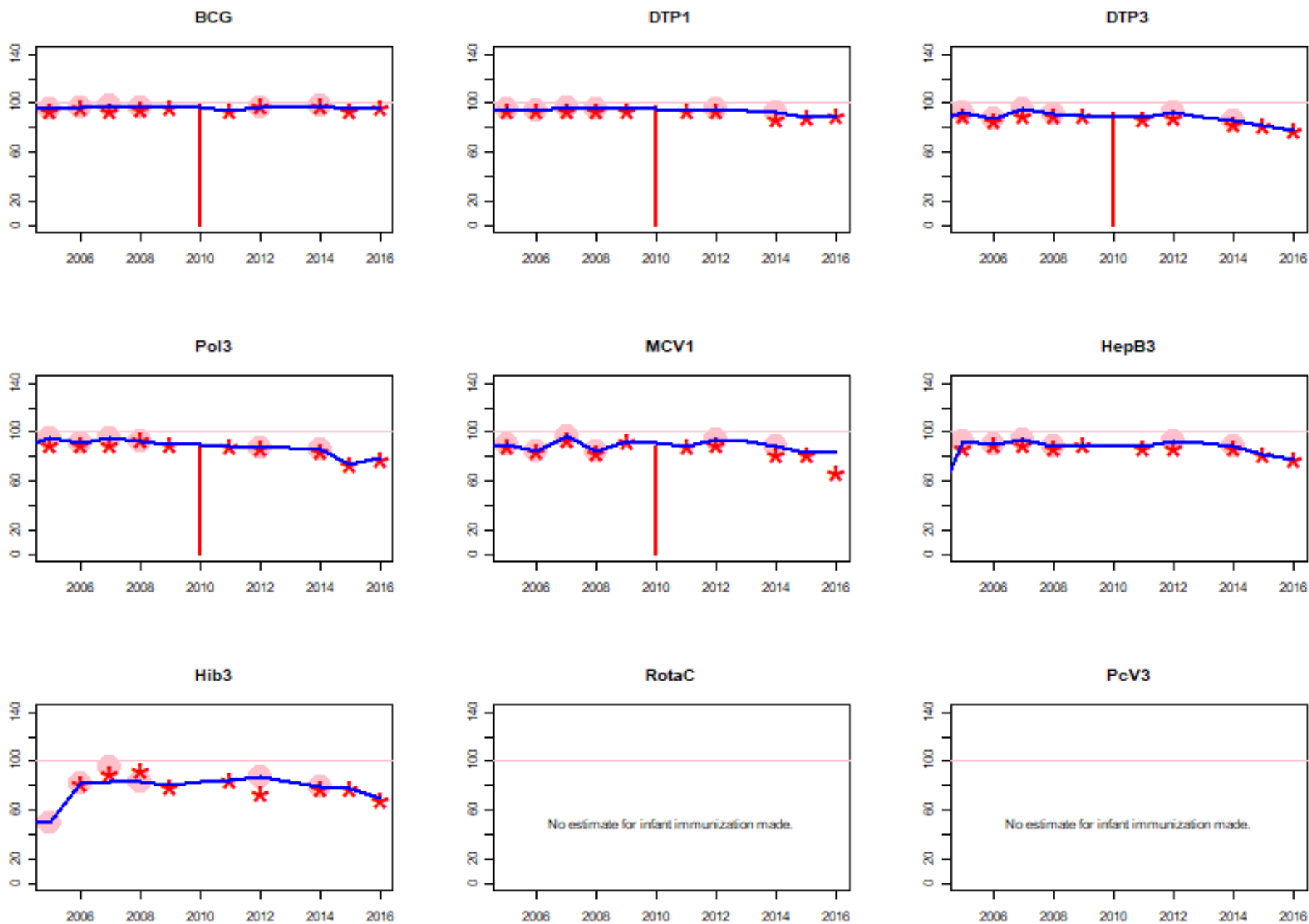


Bosnia and Herzegovina: WHO and UNICEF estimates of immunization coverage: 2016 revision



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 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. 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 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.

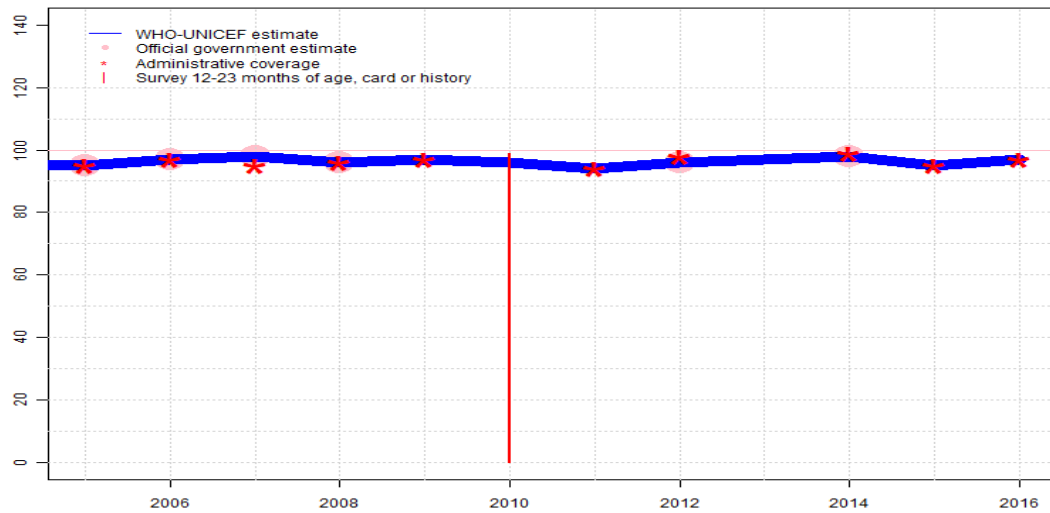
PcV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect 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.

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Bosnia and Herzegovina - BCG

BIH - BCG



Description:

- 2016: Estimate based on reported administrative 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+
- 2015: Estimate based on reported administrative data. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2011: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2010: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). GoC=S+ D+
- 2009: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2005: Estimate based on coverage reported by national government. GoC=R+ S+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	95	97	98	96	97	96	94	96	97	98	95	97
Estimate GoC	●●●	●●●	●●	●	●●●	●●	●●●	●●●	●	●	●●	●●
Official	95	97	98	96	NA	NA	NA	96	NA	98	NA	NA
Administrative	95	97	95	96	97	NA	94	98	NA	99	95	97
Survey	NA	NA	NA	NA	NA	99	NA	NA	NA	NA	NA	NA

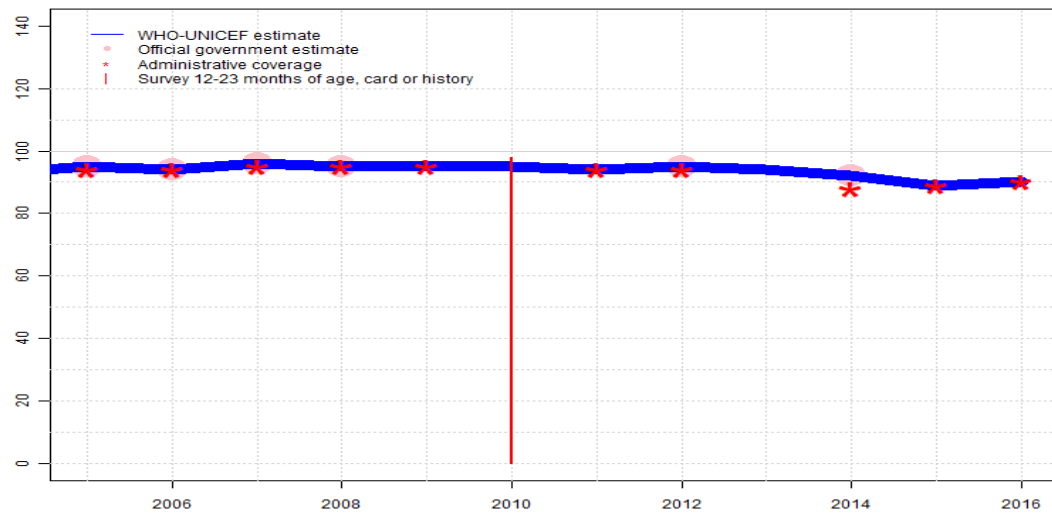
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2015 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 - DTP1

BIH - DTP1



Description:

- 2016: Estimate based on reported administrative 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+
- 2015: Estimate based on reported administrative data. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Programme reports a six month stock-out of DTP containing vaccine. Estimate challenged by: D-
- 2013: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2011: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2010: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=S+ D+
- 2009: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2005: Estimate based on coverage reported by national government. GoC=R+ S+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	95	94	96	95	95	95	94	95	94	92	89	90
Estimate GoC	●●●	●●●	●●	●	●●●	●●	●●●	●●●	●	●	●●	●●
Official	95	94	96	95	NA	NA	NA	95	NA	92	NA	NA
Administrative	94	94	95	95	95	NA	94	94	NA	88	89	90
Survey	NA	NA	NA	NA	NA	98	NA	NA	NA	NA	NA	NA

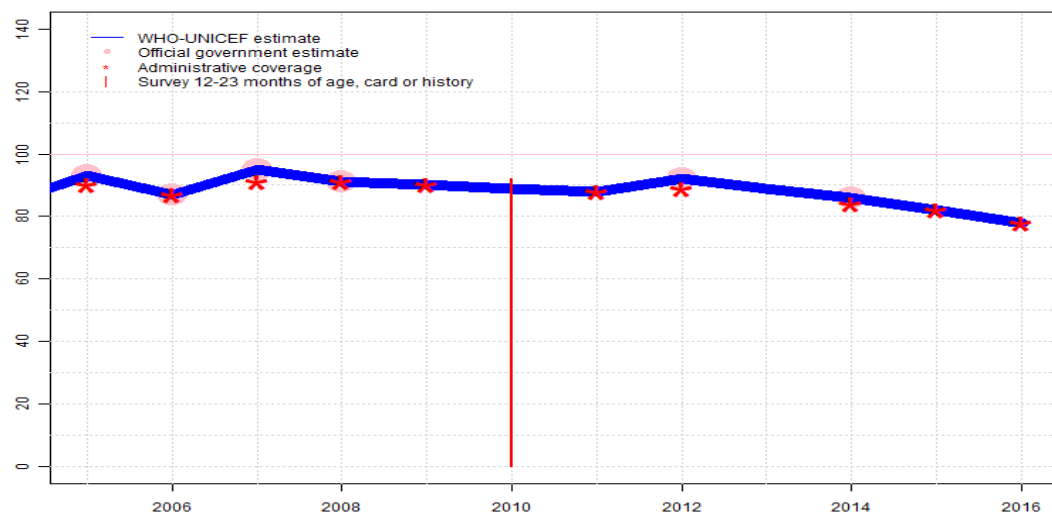
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2015 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 - DTP3

BIH - DTP3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	93	87	95	91	90	89	88	92	89	86	82	78
Estimate GoC	●●●	●●●	●●	●	●●●	●●	●●●	●●●	●	●●	●●	●●
Official	93	87	95	91	NA	NA	NA	92	NA	86	NA	NA
Administrative	90	87	91	91	90	NA	88	89	NA	84	82	78
Survey	NA	NA	NA	NA	NA	92	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: 2015 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.

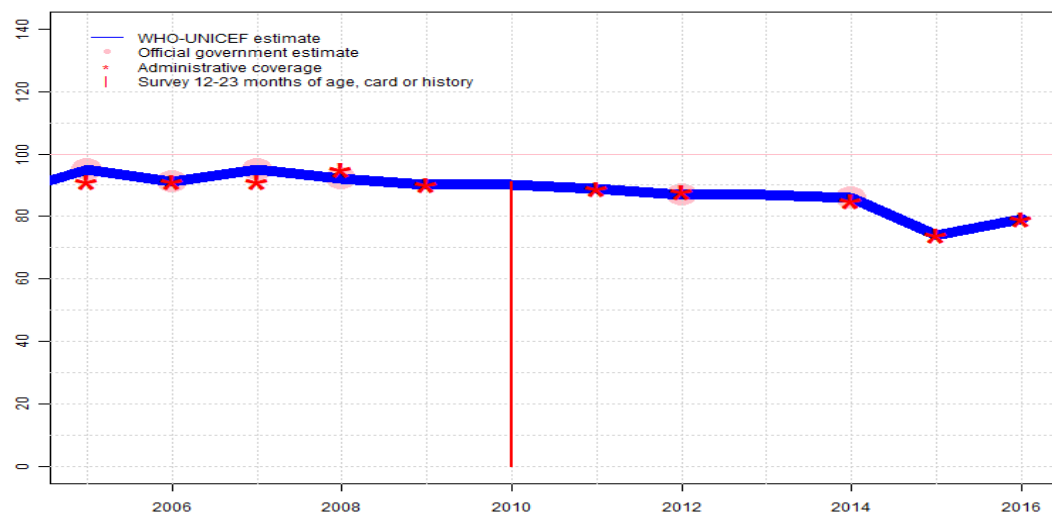
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on reported administrative 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+
- 2015: Estimate based on reported administrative data. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Programme reports a six month stock-out of DTP containing vaccine. GoC=R+ D+
- 2013: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2011: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2010: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). The Bosnia and Herzegovina Multiple Indicator Cluster Survey 2011–2012 card or history results of 92 percent modified for recall bias to 94 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 89 percent and 3d dose card only coverage of 85 percent. GoC=S+ D+
- 2009: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2005: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Bosnia and Herzegovina - Pol3

BIH - Pol3



Description:

- 2016: Estimate based on reported administrative 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+
- 2015: Estimate based on reported administrative data. Programme reports a 5-month stock-out of OPV at national level. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Programme reports a six month stock-out of IPV and two month stock-out of OPV. GoC=R+ D+
- 2013: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2011: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2010: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). The Bosnia and Herzegovina Multiple Indicator Cluster Survey 2011–2012 card or history results of 91 percent modified for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 88 percent and 3d dose card only coverage of 84 percent. GoC=S+ D+
- 2009: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2005: Estimate based on coverage reported by national government. GoC=R+ S+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	95	91	95	92	90	90	89	87	87	86	74	79
Estimate GoC	●●●	●●●	●●	●	●●●	●●	●●●	●●●	●	●●	●●	●●
Official	95	91	95	92	NA	NA	NA	87	NA	86	NA	NA
Administrative	91	91	91	95	90	NA	89	88	NA	85	74	79
Survey	NA	NA	NA	NA	NA	91	NA	NA	NA	NA	NA	NA

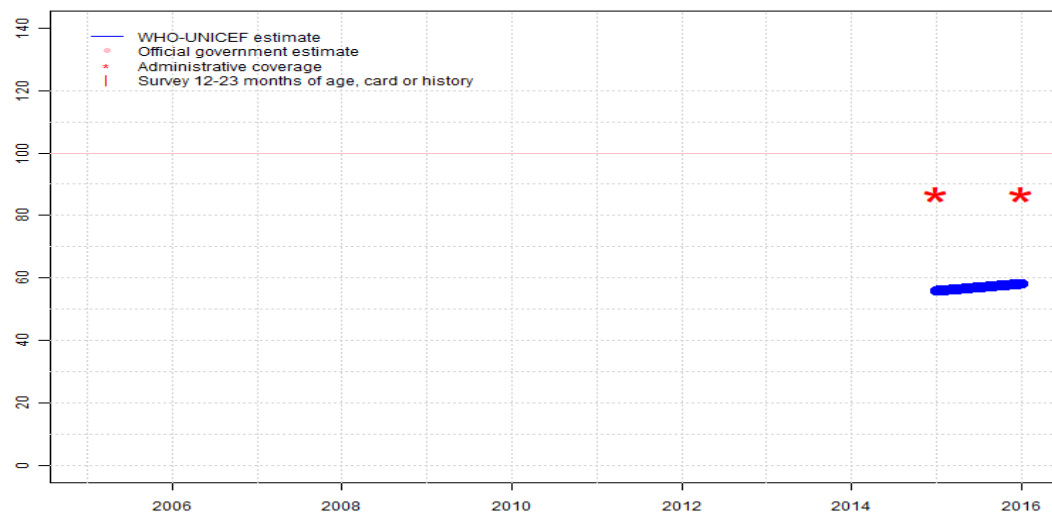
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2015 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 - IPV1

BIH - IPV1



Description:

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. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. 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-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	58
Estimate GoC	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	87	87
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

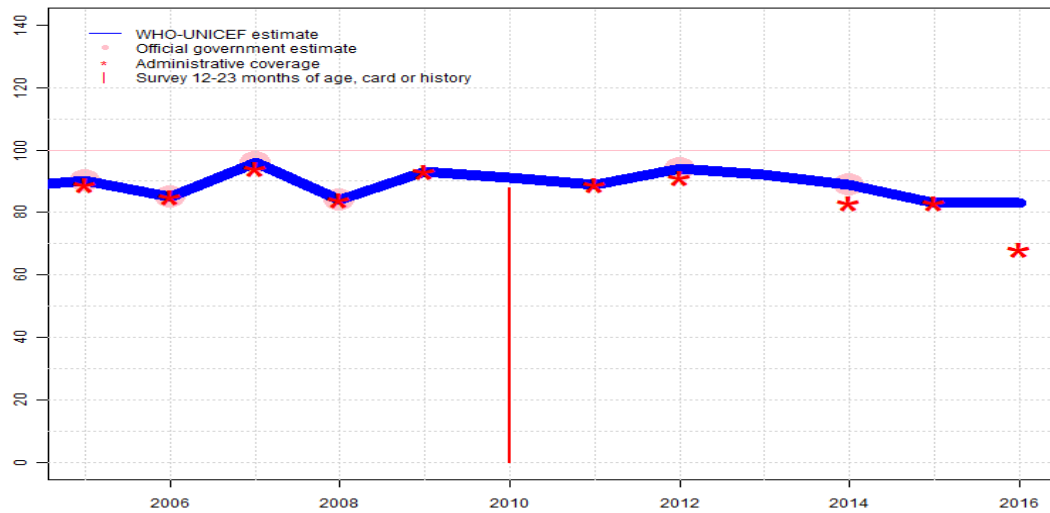
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2015 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 - MCV1

BIH - MCV1



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	90	85	96	84	93	91	89	94	92	89	83	83
Estimate GoC	•	•••	••	•	•••	••	•••	•••	•	•	••	•
Official	90	85	96	84	NA	NA	NA	94	NA	89	NA	NA
Administrative	89	85	94	84	93	NA	89	91	NA	83	83	68
Survey	NA	NA	NA	NA	NA	88	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: 2015 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.

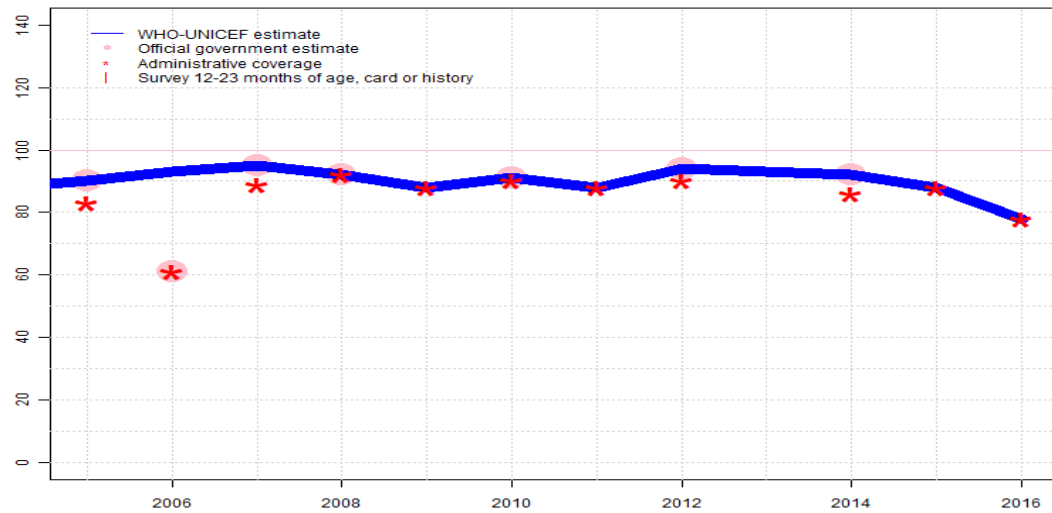
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on extrapolation from data reported by national government. Reported data excluded due to unexplained sudden change in coverage from 83 level to 68 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. Estimate challenged by: D-
- 2015: Estimate based on reported administrative data. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2011: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2010: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). GoC=S+ D+
- 2009: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. Reported data includes only 10 of 16 districts. Estimate challenged by: D-
- 2007: Estimate based on coverage reported by national government. Increase likely due to catch-up from 2006 vaccine shortage. GoC=R+ D+
- 2006: Estimate based on coverage reported by national government. Decline result of 4-6 months of vaccine shortage. GoC=R+ S+ D+
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: S-

Bosnia and Herzegovina - MCV2

BIH - MCV2



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	90	93	95	92	88	91	88	94	93	92	88	78
Estimate GoC	●●	●	●	●	●●	●●	●●	●●	●	●	●●	●●
Official	90	61	95	92	NA	91	NA	94	NA	92	NA	NA
Administrative	83	61	89	92	88	90	88	90	NA	86	88	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: 2015 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.

2016: Estimate based on reported administrative estimate. 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+

2015: Estimate based on reported administrative estimate. GoC=R+ D+

2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

2013: Estimate based on interpolation between reported values. GoC=No accepted empirical data

2012: Estimate based on coverage reported by national government. GoC=R+ D+

2011: Estimate based on reported administrative estimate. GoC=R+ D+

2010: Estimate based on coverage reported by national government. GoC=R+ D+

2009: Estimate based on reported administrative estimate. GoC=R+ D+

2008: Estimate based on coverage reported by national government. Estimate challenged by: D-

2007: Estimate based on coverage reported by national government. Estimate challenged by: D-

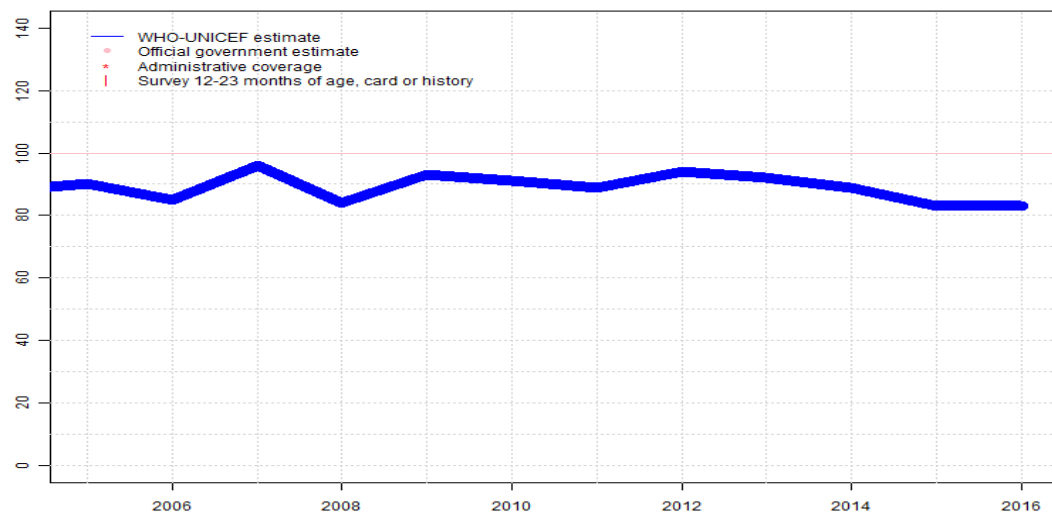
2006: Estimate based on interpolation between reported values. Reported data excluded due to decline in reported coverage from 90 percent to 61 percent with increase to 95 percent.

Estimate challenged by: D-

2005: Estimate based on coverage reported by national government. GoC=R+ D+

Bosnia and Herzegovina - RCV1

BIH - RCV1



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.

2016: 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. Estimate challenged by: 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+

2010: Estimate based on estimated MCV1. GoC=S+ D+

2009: Estimate based on estimated MCV1. GoC=R+ S+ D+

2008: Estimate based on estimated MCV1. Estimate challenged by: D-

2007: Estimate based on estimated MCV1. GoC=R+ D+

2006: Estimate based on estimated MCV1. GoC=R+ S+ D+

2005: Estimate based on estimated MCV1. Estimate challenged by: S-

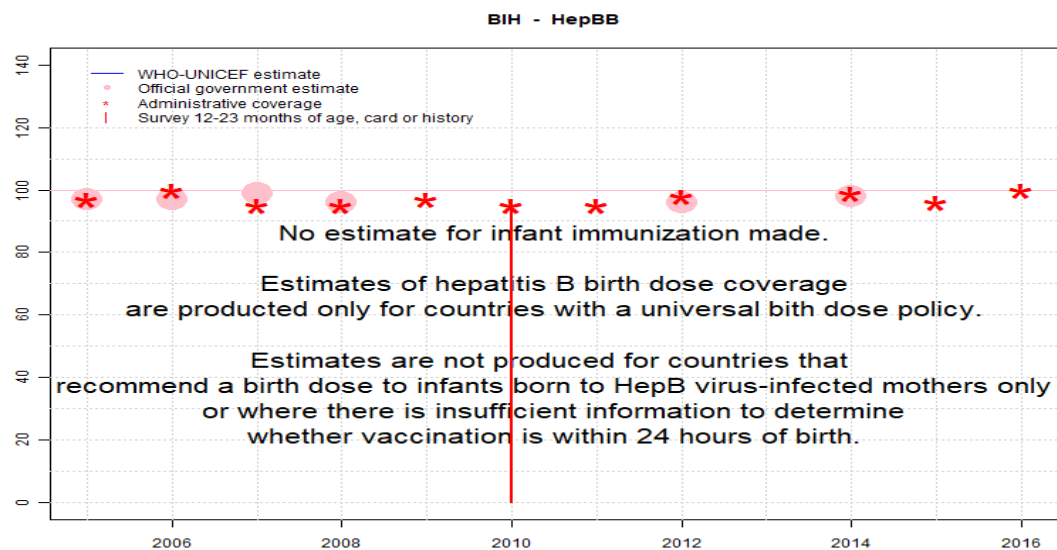
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	90	85	96	84	93	91	89	94	92	89	83	83
Estimate GoC	•	•••	••	•	•••	••	•••	•••	•	•	••	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2015 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 - HepBB



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
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	97	97	99	96	NA	NA	NA	96	NA	98	NA	NA
Administrative	97	100	95	95	97	95	95	98	NA	99	96	100
Survey	NA	NA	NA	NA	NA	97	NA	NA	NA	NA	NA	NA

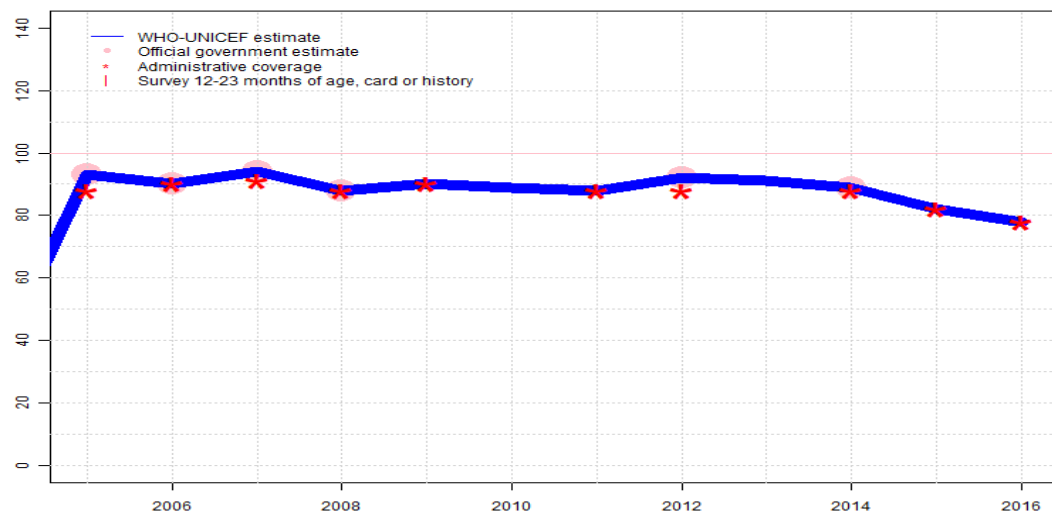
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2015 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

BIH - HepB3



Description:

- 2016: Estimate based on reported administrative estimate. 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+
- 2015: Estimate based on reported administrative estimate. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Programme reports a two month stock-out of HepB containing vaccine. GoC=R+ D+
- 2013: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on reported administrative estimate. GoC=R+ D+
- 2010: Estimate based on interpolation between reported values. GoC=D+
- 2009: Estimate based on reported administrative estimate. GoC=R+ D+
- 2008: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2006: Estimate based on coverage reported by national government. GoC=R+ D+
- 2005: Estimate based on coverage reported by national government. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	93	90	94	88	90	89	88	92	91	89	82	78
Estimate GoC	●●	●●	●●	●	●●	●●	●●	●●	●	●●	●●	●●
Official	93	90	94	88	NA	NA	NA	92	NA	89	NA	NA
Administrative	88	90	91	88	90	NA	88	88	NA	88	82	78
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

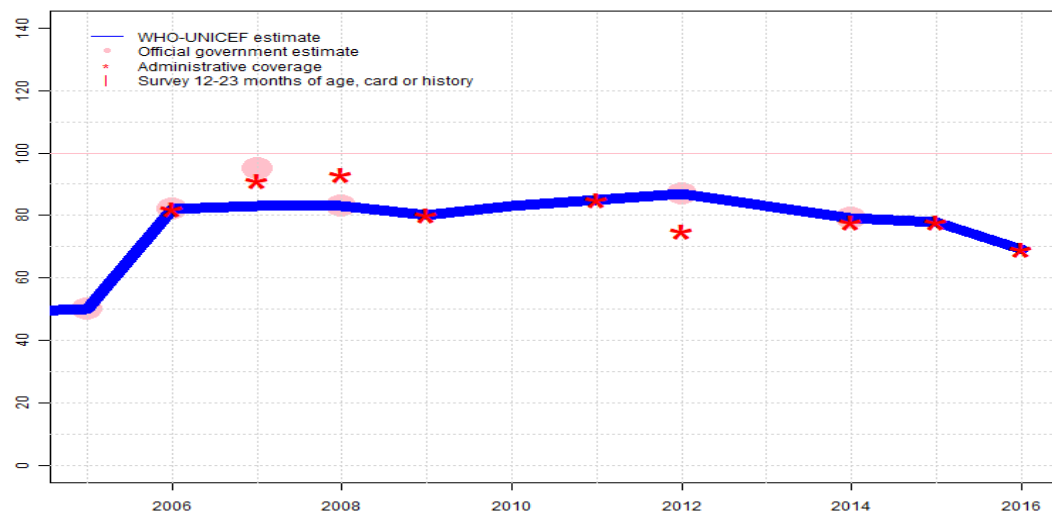
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2015 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 - Hib3

BIH - Hib3



Description:

- 2016: Estimate based on reported administrative estimate. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-
- 2015: Estimate based on reported administrative estimate. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Programme reports a six month stock-out of Hib containing vaccine. GoC=R+ D+
- 2013: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2012: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2011: Estimate based on reported administrative estimate. GoC=R+ D+
- 2010: Estimate based on interpolation between reported values. GoC=D+
- 2009: Estimate based on reported administrative estimate. GoC=R+ D+
- 2008: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2007: Estimate based on interpolation between reported values. Reported data excluded due to an unexplained increase from 82 percent to 95 percent with decrease 83 percent. Estimate challenged by: D-
- 2006: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2005: Estimate based on coverage reported by national government. GoC=R+ D+

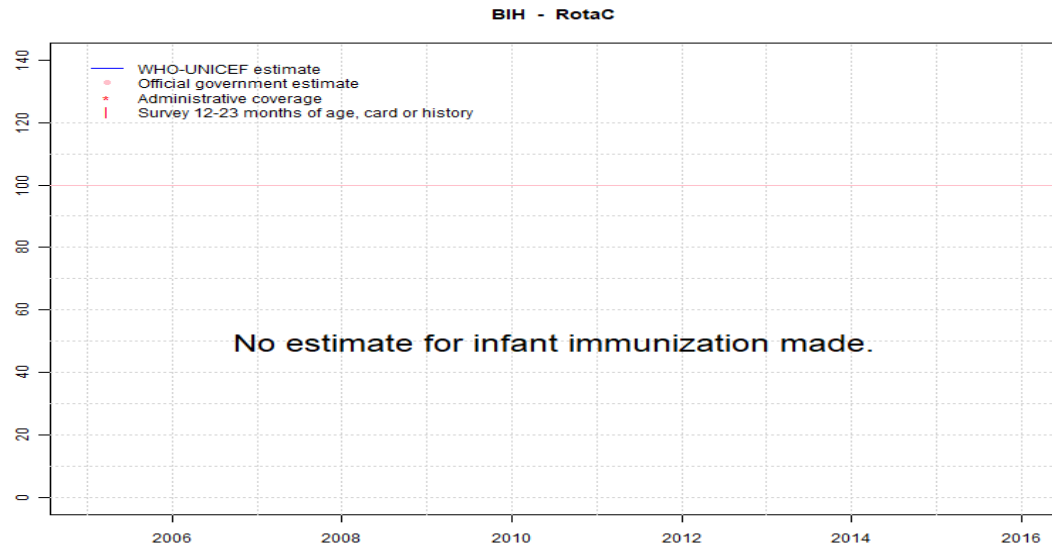
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	50	82	83	83	80	83	85	87	83	79	78	69
Estimate GoC	●●	●	●	●	●●	●●	●●	●	●	●●	●●	●
Official	50	82	95	83	NA	NA	NA	87	NA	79	NA	NA
Administrative	NA	82	91	93	80	NA	85	75	NA	78	78	69
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2015 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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Bosnia and Herzegovina - RotaC



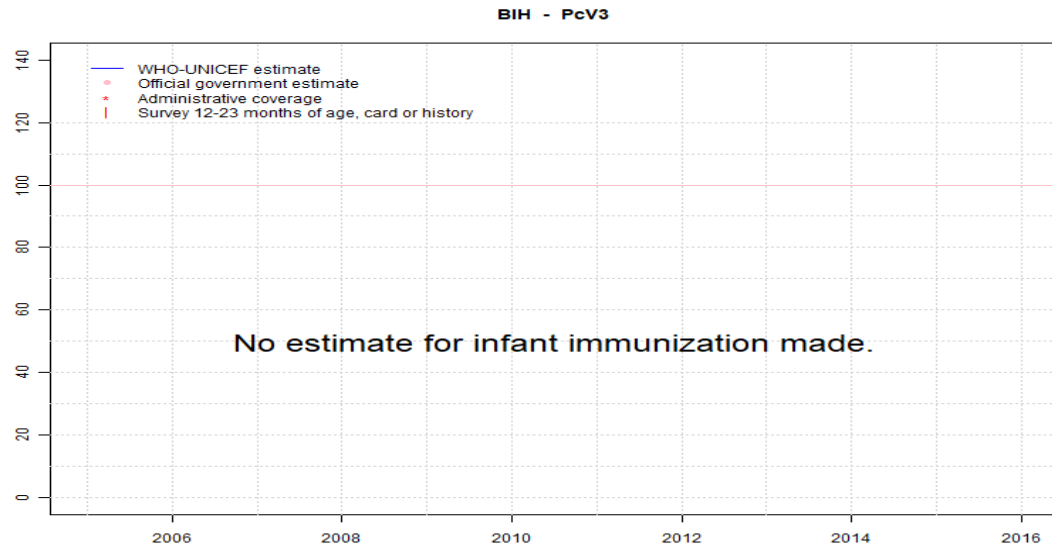
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2015 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



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
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: 2015 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

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	98	18-29 m	-	91
BCG	Card	89	18-29 m	-	91
BCG	Card or History	99	18-29 m	463	91
BCG	History	10	18-29 m	-	91
DTP1	C or H <12 months	95	18-29 m	-	91
DTP1	Card	89	18-29 m	-	91
DTP1	Card or History	98	18-29 m	463	91
DTP1	History	9	18-29 m	-	91
DTP3	C or H <12 months	86	18-29 m	-	91
DTP3	Card	85	18-29 m	-	91
DTP3	Card or History	92	18-29 m	463	91
DTP3	History	7	18-29 m	-	91
HepBB	C or H <12 months	95	18-29 m	-	91
HepBB	Card	91	18-29 m	-	91
HepBB	Card or History	97	18-29 m	463	91
HepBB	History	6	18-29 m	-	91
MCV1	C or H <18 months	80	18-29 m	-	91
MCV1	Card	80	18-29 m	-	91
MCV1	Card or History	88	18-29 m	463	91
MCV1	History	8	18-29 m	-	91
Pol1	C or H <12 months	95	18-29 m	-	91
Pol1	Card	88	18-29 m	-	91
Pol1	Card or History	96	18-29 m	463	91
Pol1	History	8	18-29 m	-	91
Pol3	C or H <12 months	85	18-29 m	-	91
Pol3	Card	84	18-29 m	-	91
Pol3	Card or History	91	18-29 m	463	91
Pol3	History	8	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	96	18-29 m	636	77
BCG	Card	74	18-29 m	636	77

BCG	Card or History	96	18-29 m	636	77
BCG	History	23	18-29 m	636	77
DTP1	C or H <12 months	93	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	18-29 m	636	77
DTP3	History	14	18-29 m	636	77
MCV1	C or H <12 months	75	18-29 m	636	77
MCV1	Card	65	18-29 m	636	77
MCV1	Card or History	78	18-29 m	636	77
MCV1	History	13	18-29 m	636	77
Pol1	C or H <12 months	94	18-29 m	636	77
Pol1	Card	76	18-29 m	636	77
Pol1	Card or History	94	18-29 m	636	77
Pol1	History	19	18-29 m	636	77
Pol3	C or H <12 months	79	18-29 m	636	77
Pol3	Card	72	18-29 m	636	77
Pol3	Card or History	86	18-29 m	636	77
Pol3	History	14	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
BCG	C or H <12 months	95	12-23 m	480	79
BCG	Card	78	12-23 m	480	79
BCG	Card or History	95	12-23 m	480	79
BCG	History	17	12-23 m	480	79
DTP1	C or H <12 months	91	12-23 m	480	79
DTP1	Card	78	12-23 m	480	79
DTP1	Card or History	92	12-23 m	480	79
DTP1	History	15	12-23 m	480	79
DTP3	C or H <12 months	85	12-23 m	480	79
DTP3	Card	75	12-23 m	480	79
DTP3	Card or History	88	12-23 m	480	79
DTP3	History	12	12-23 m	480	79

Bosnia and Herzegovina - survey details

MCV1	C or H <12 months	25	12-23 m	480	79	Pol1	History	16	12-23 m	480	79
MCV1	Card	54	12-23 m	480	79	Pol3	C or H <12 months	82	12-23 m	-	79
MCV1	Card or History	64	12-23 m	480	79	Pol3	Card	76	12-23 m	480	79
MCV1	History	11	12-23 m	480	79	Pol3	Card or History	85	12-23 m	480	79
Pol1	C or H <12 months	93	12-23 m	480	79	Pol3	History	10	12-23 m	480	79
Pol1	Card	78	12-23 m	480	79						
Pol1	Card or History	94	12-23 m	480	79						

Further information and estimates for previous years are available at:

<http://www.data.unicef.org/child-health/immunization>

http://www.who.int/immunization/monitoring_surveillance/routine/coverage/en/index4.html