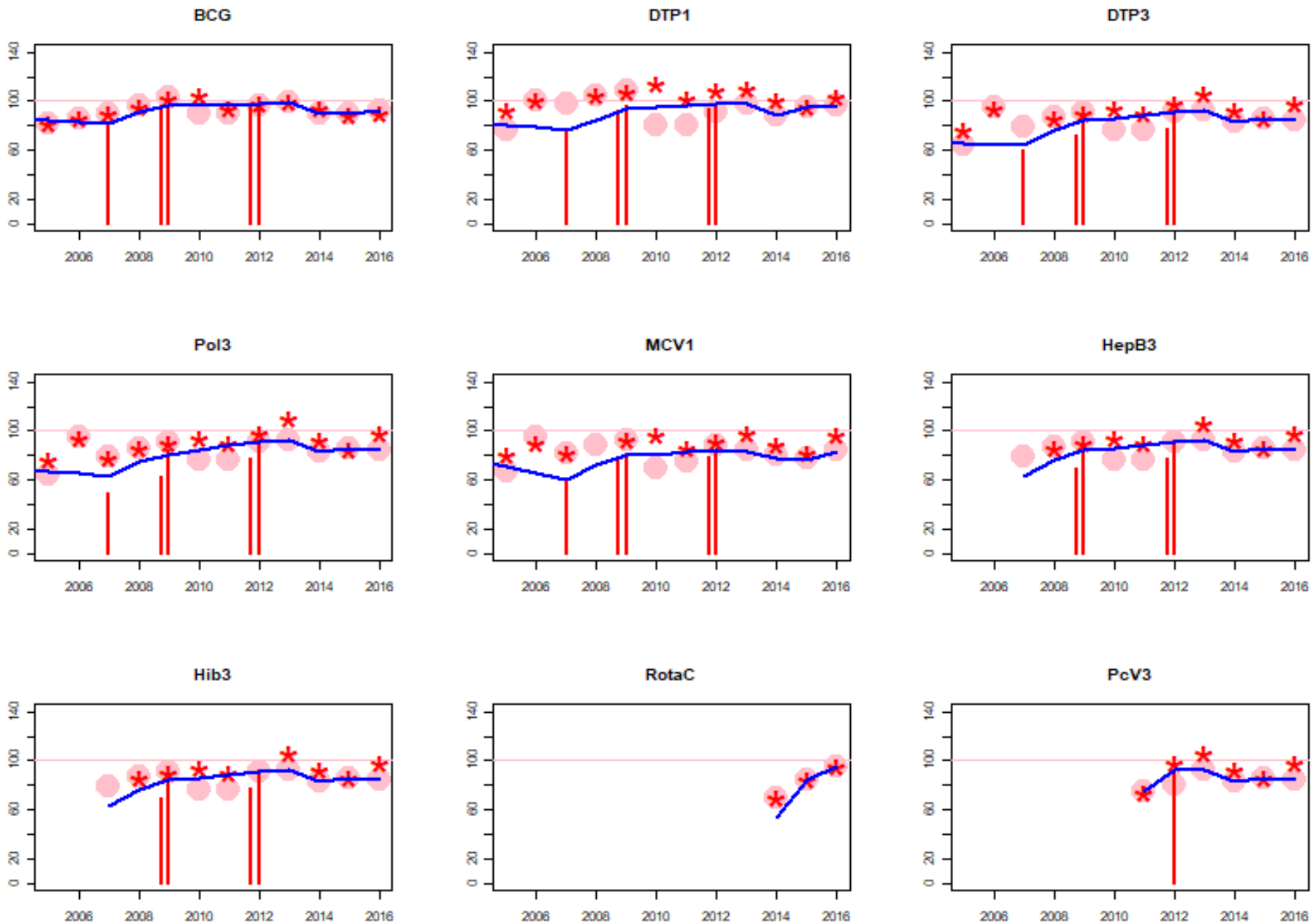


Sierra Leone: WHO and UNICEF estimates of immunization coverage: 2016 revision



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.

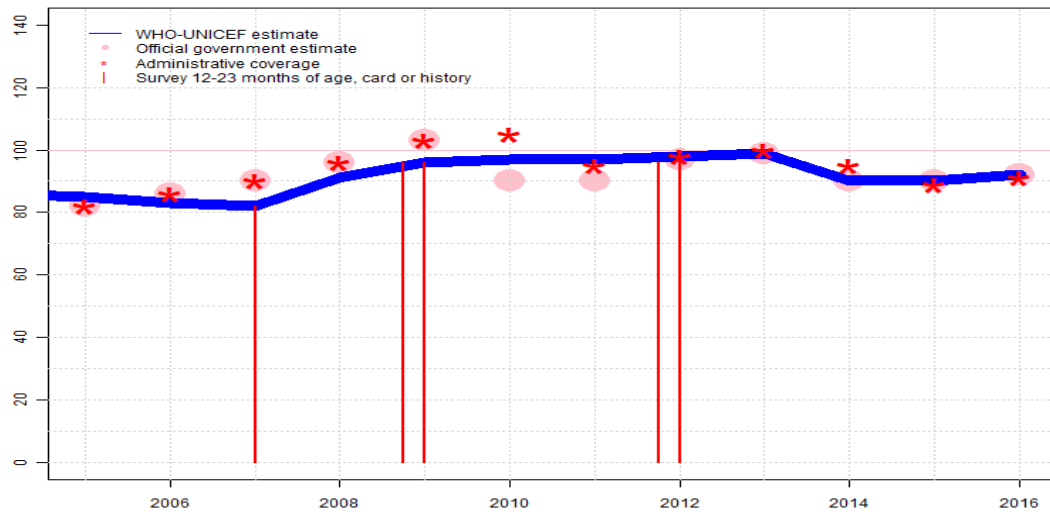
PcV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

Disclaimer: All reasonable precautions have been taken by the World Health Organization and United Nations Children's Fund to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization or United Nations Children's Fund be liable for damages arising from its use.

Sierra Leone - BCG

SLE - BCG



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	85	83	82	91	96	97	97	98	99	90	90	92
Estimate GoC	•	•	•	•	•	•	•	••	•	•	•	•
Official	82	86	90	96	103	90	90	97	99	90	90	92
Administrative	82	86	90	96	103	105	95	98	100	95	89	91
Survey	NA	NA	82	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.

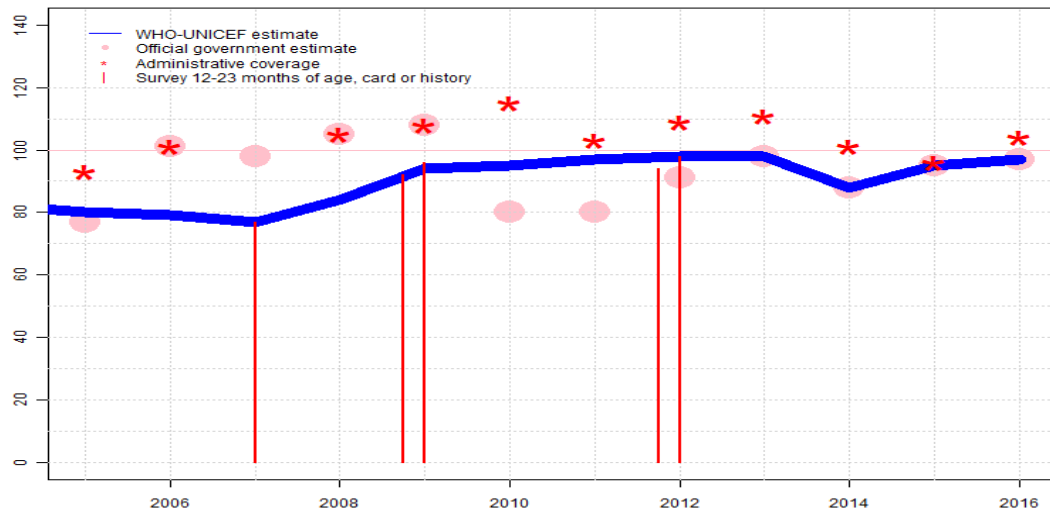
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Reported declines in reported coverage due in part to Ebola virus disease outbreak during 2014. Inconsistent and unexplained adjustment made to official coverage from administrative data. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Official estimate based on 2013 survey results. Estimate challenged by: D-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 98 percent based on 2 survey(s). Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Official estimates were based on targets from cMYP. GoC=R+ S+ D+
- 2011: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: R-
- 2010: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-
- 2009: Estimate of 96 percent assigned by working group. Estimate is based on survey results. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Reported data excluded because 103 percent greater than 100 percent. Estimate challenged by: R-S-
- 2008: Reported data calibrated to 2007 and 2009 levels. Estimate challenged by: R-
- 2007: Estimate of 82 percent assigned by working group. Estimate is based on survey results. Estimate challenged by: R-S-
- 2006: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Estimate challenged by: R-
- 2005: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Estimate challenged by: R-

Sierra Leone - DTP1

SLE - DTP1



Description:

- 2016: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Reported declines in reported coverage due in part to Ebola virus disease outbreak during 2014. Inconsistent and unexplained adjustment made to official coverage from administrative data. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Official estimate based on 2013 survey results. Estimate challenged by: D-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 96 percent based on 2 survey(s). Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Official estimates were based on targets from cMYP. Estimate challenged by: D-
- 2011: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-
- 2010: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-
- 2009: Estimate of 94 percent assigned by working group. Estimate is based on survey results, consistent with other antigens. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Reported data excluded because 108 percent greater than 100 percent. Estimate challenged by: D-R-S-
- 2008: Estimate of 84 percent assigned by working group. Estimate based on reported data adjusted to level of 2007 survey. Reported data excluded because 105 percent greater than 100 percent. Estimate challenged by: D-R-
- 2007: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 77 percent based on 1 survey(s). Estimate challenged by: R-S-
- 2006: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Reported data excluded because 101 percent greater than 100 percent. Estimate challenged by: D-R-
- 2005: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Estimate challenged by: D-R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	80	79	77	84	94	95	97	98	98	88	95	97
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	77	101	98	105	108	80	80	91	98	88	95	97
Administrative	93	101	NA	105	108	115	103	109	111	101	96	104
Survey	NA	NA	77	NA	*	NA	NA	*	NA	NA	NA	NA

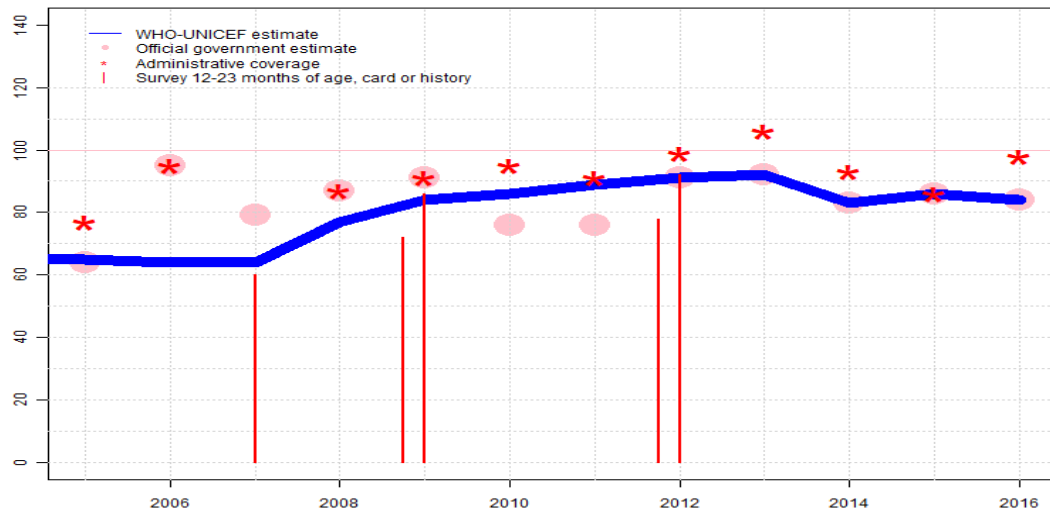
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Sierra Leone - DTP3

SLE - DTP3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	65	64	64	77	84	86	89	91	92	83	86	84
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	64	95	79	87	91	76	76	91	92	83	86	84
Administrative	77	95	NA	87	91	95	91	99	106	93	86	98
Survey	NA	NA	60	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:

- 2016: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Reported declines in reported coverage due in part to Ebola virus disease outbreak during 2014. Inconsistent and unexplained adjustment made to official coverage from administrative data. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Official estimate based on 2013 survey results. Estimate challenged by: D-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 88 percent based on 2 survey(s). Sierra Leone Demographic and Health Survey 2013 card or history results of 78 percent modified for recall bias to 85 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 72 percent and 3d dose card only coverage of 65 percent. Report on Sierra Leone Routine Immunization Coverage Survey - 2013 card or history results of 92 percent modified for recall bias to 90 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 91 percent and 3d dose card only coverage of 84 percent. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Official estimates were based on targets from cMYP. Estimate challenged by: D-
- 2011: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: R-
- 2010: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-
- 2009: Estimate of 84 percent assigned by working group. Estimate is based on survey results, consistent with other antigens. Sierra Leone Immunization Cluster Coverage Survey 2010 card or history results of 86 percent modified for recall bias to 84 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 74 percent and 3d dose card only coverage of 65 percent. Sierra Leone Multiple Indicator Cluster Survey 2010 card or history results of 72 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 64 percent and 3d dose card only coverage of 58 percent. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-S-
- 2008: Reported data calibrated to 2007 and 2009 levels. Estimate challenged by: R-S-
- 2007: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 64 percent based on 1 survey(s). Sierra Leone Demographic and Health Survey 2008 card or history results of 60 percent modified for recall bias to 64 percent based on 1st dose card or history coverage of 77 percent, 1st dose card only coverage of 55 percent and 3d dose card only coverage of 46 percent. Estimate challenged by: R-S-

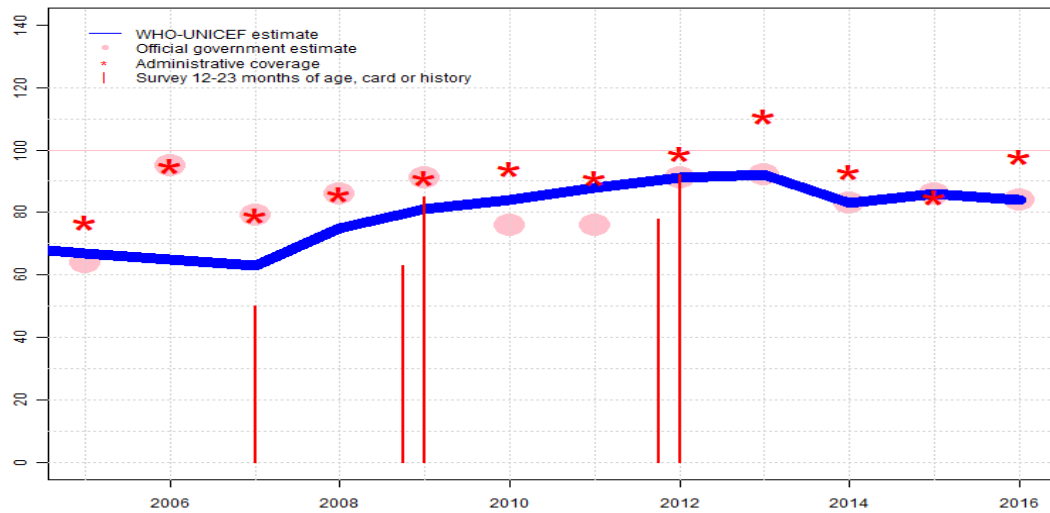
Sierra Leone - DTP3

2006: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Reported data excluded due to an unexplained increase from 64 percent to 95 percent with decrease 79 percent. Estimate challenged by: D-R-

2005: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Estimate challenged by: D-R-

Sierra Leone - Pol3

SLE - Pol3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	67	65	63	75	81	84	88	91	92	83	86	84
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	64	95	79	86	91	76	76	91	92	83	86	84
Administrative	77	95	79	86	91	94	91	99	111	93	85	98
Survey	NA	NA	50	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:

- 2016: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Reported declines in reported coverage due in part to Ebola virus disease outbreak during 2014. Inconsistent and unexplained adjustment made to official coverage from administrative data. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Official estimate based on 2013 survey results. Estimate challenged by: D-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 87 percent based on 2 survey(s). Sierra Leone Demographic and Health Survey 2013 card or history results of 78 percent modified for recall bias to 84 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 73 percent and 3d dose card only coverage of 65 percent. Report on Sierra Leone Routine Immunization Coverage Survey - 2013 card or history results of 92 percent modified for recall bias to 90 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 89 percent and 3d dose card only coverage of 83 percent. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Official estimates were based on targets from cMYP. Estimate challenged by: D-
- 2011: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: R-
- 2010: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-
- 2009: Estimate of 81 percent assigned by working group. Estimate is based on survey results, consistent with other antigens. Sierra Leone Immunization Cluster Coverage Survey 2010 card or history results of 85 percent modified for recall bias to 84 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 73 percent and 3d dose card only coverage of 64 percent. Sierra Leone Multiple Indicator Cluster Survey 2010 card or history results of 63 percent modified for recall bias to 78 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 61 percent and 3d dose card only coverage of 54 percent. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-S-
- 2008: Reported data calibrated to 2007 and 2009 levels. Estimate challenged by: R-S-
- 2007: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 63 percent based on 1 survey(s). Sierra Leone Demographic and Health Survey 2008 card or history results of 50 percent modified for recall bias to 63 percent based on 1st dose card or history coverage of 76 percent, 1st dose card only coverage of 53 percent and 3d dose card only coverage of 44 percent. Estimate challenged by: D-R-S-

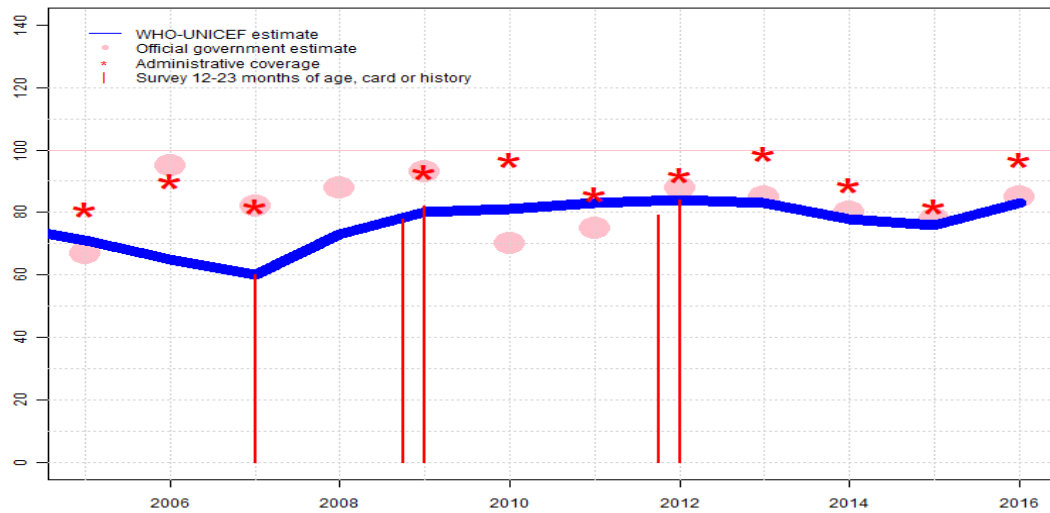
Sierra Leone - Pol3

2006: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Reported data excluded due to an unexplained increase from 64 percent to 95 percent with decrease 79 percent. Estimate challenged by: D-R-

2005: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Estimate challenged by: D-R-

Sierra Leone - MCV1

SLE - MCV1



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	71	65	60	73	80	81	83	84	83	78	76	83
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	67	95	82	88	93	70	75	88	85	80	78	85
Administrative	81	90	82	NA	93	97	86	92	99	89	82	97
Survey	NA	NA	60	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.

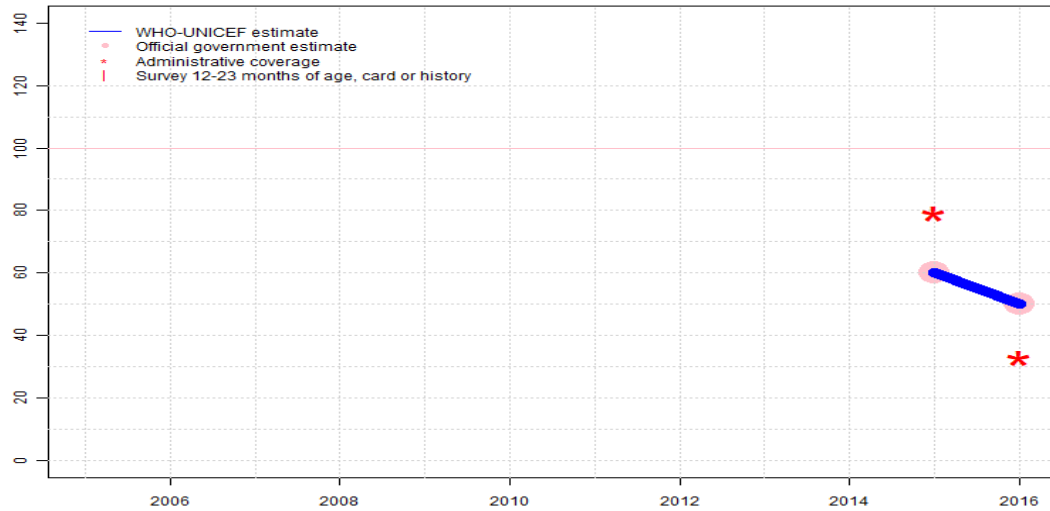
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Reported data calibrated to 2012 levels. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2012 levels. Estimate challenged by: D-R-
- 2014: Reported data calibrated to 2012 levels. Reported declines in reported coverage due in part to Ebola virus disease outbreak during 2014. Inconsistent and unexplained adjustment made to official coverage from administrative data. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2012 levels. Official estimate based on 2013 survey results. Estimate challenged by: D-R-
- 2012: Estimate of 84 percent assigned by working group. Estimate based on survey result. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Official estimates were based on targets from cMYP. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: R-
- 2010: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-
- 2009: Estimate of 80 percent assigned by working group. Estimate is based on survey results, consistent with other antigens. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-S-
- 2008: Reported data calibrated to 2007 and 2009 levels. Estimate challenged by: R-S-
- 2007: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 60 percent based on 1 survey(s). Estimate challenged by: D-R-S-
- 2006: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Reported data excluded due to an unexplained increase from 67 percent to 95 percent with decrease 82 percent. Estimate challenged by: D-R-S-
- 2005: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Estimate challenged by: D-R-S-

Sierra Leone - MCV2

SLE - MCV2



Description:

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

2016: Estimate based on coverage reported by national government. GoC=R+ D+

2015: Estimate based on coverage reported by national government. Estimate challenged by: D-

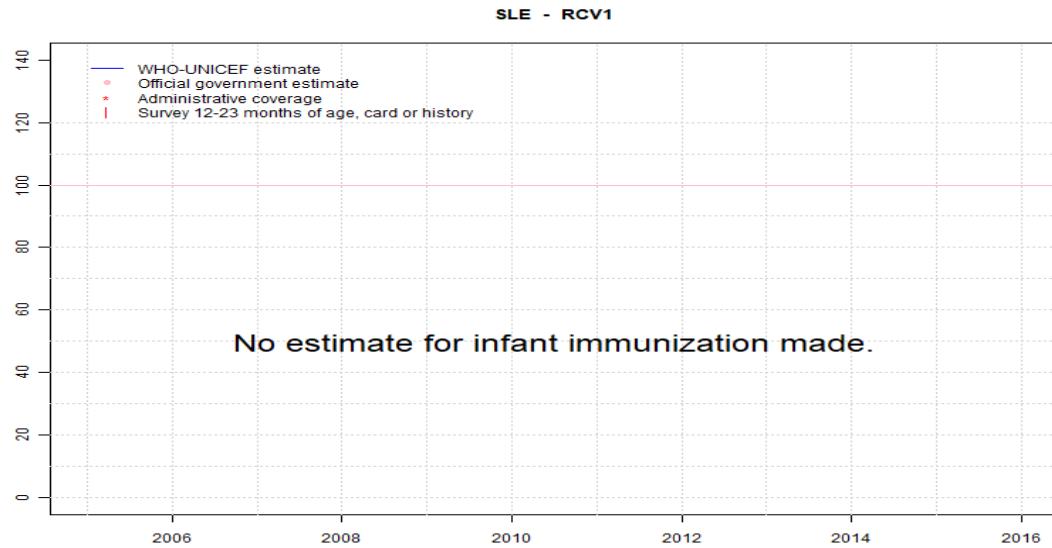
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	60	50
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	•	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	60	50
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	79	33
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

Sierra Leone - RCV1



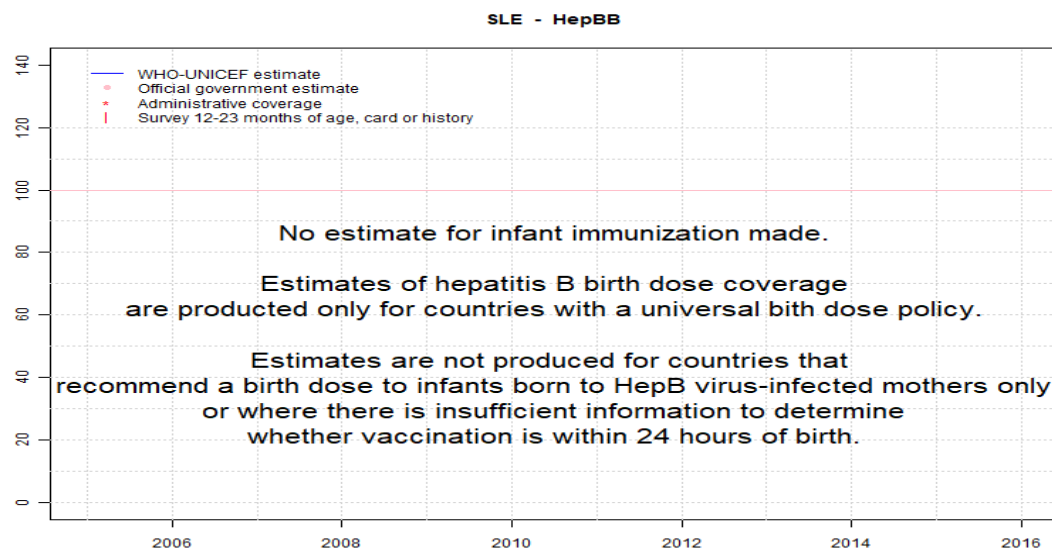
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

Sierra Leone - 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	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

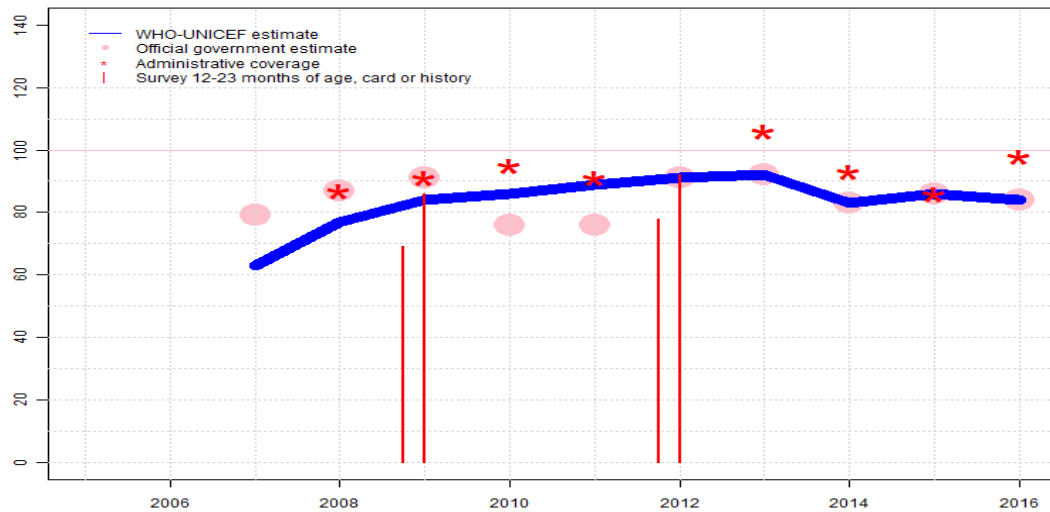
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Sierra Leone - HepB3

SLE - HepB3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	63	77	84	86	89	91	92	83	86	84
Estimate GoC	NA	NA	•	•	•	•	•	••	•	•	•	•
Official	NA	NA	79	87	91	76	76	91	92	83	86	84
Administrative	NA	NA	NA	87	91	95	91	NA	106	93	86	98
Survey	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.

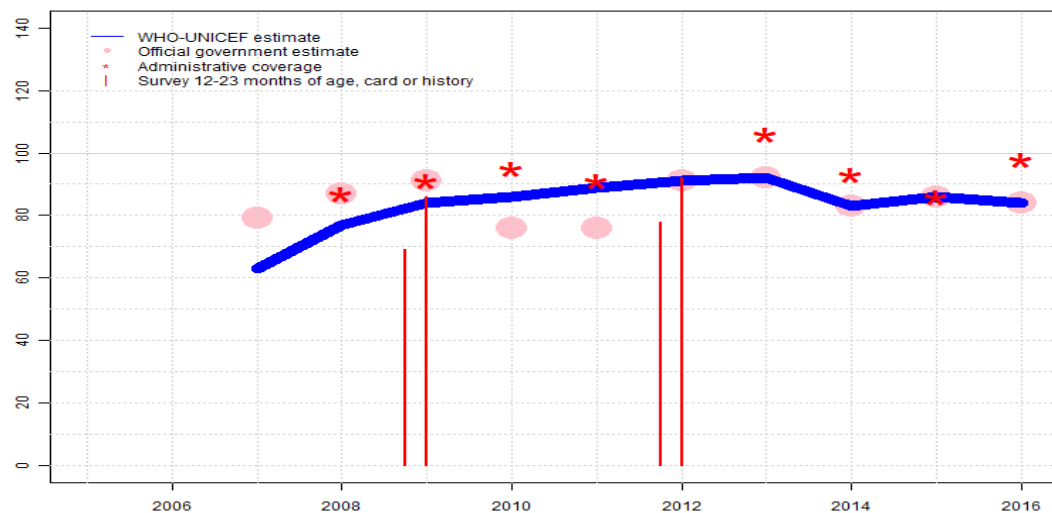
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Reported declines in reported coverage due in part to Ebola virus disease outbreak during 2014. Inconsistent and unexplained adjustment made to official coverage from administrative data. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Official estimate based on 2013 survey results. Estimate challenged by: D-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 88 percent based on 2 survey(s). Sierra Leone Demographic and Health Survey 2013 card or history results of 78 percent modified for recall bias to 85 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 72 percent and 3d dose card only coverage of 65 percent. Report on Sierra Leone Routine Immunization Coverage Survey - 2013 card or history results of 92 percent modified for recall bias to 90 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 91 percent and 3d dose card only coverage of 84 percent. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Official estimates were based on targets from cMYP. GoC=R+ S+
- 2011: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: R-
- 2010: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-
- 2009: Estimate of 84 percent assigned by working group. Estimate is based on survey results, consistent with other antigens. Sierra Leone Immunization Cluster Coverage Survey 2010 card or history results of 86 percent modified for recall bias to 84 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 74 percent and 3d dose card only coverage of 65 percent. Sierra Leone Multiple Indicator Cluster Survey 2010 card or history results of 69 percent modified for recall bias to 80 percent based on 1st dose card or history coverage of 86 percent, 1st dose card only coverage of 60 percent and 3d dose card only coverage of 56 percent. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: R-
- 2008: Reported data calibrated to 2007 and 2009 levels. Estimate challenged by: R-
- 2007: Estimate of 63 percent assigned by working group. Estimate follows DTP3 coverage levels. HepB vaccine introduced in 2007 Vaccine presentation is DTP-HepB-Hib. Estimate challenged by: R-S-

Sierra Leone - Hib3

SLE - Hib3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	63	77	84	86	89	91	92	83	86	84
Estimate GoC	NA	NA	•	•	•	•	•	••	•	•	•	•
Official	NA	NA	79	87	91	76	76	91	92	83	86	84
Administrative	NA	NA	NA	87	91	95	91	NA	106	93	86	98
Survey	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.

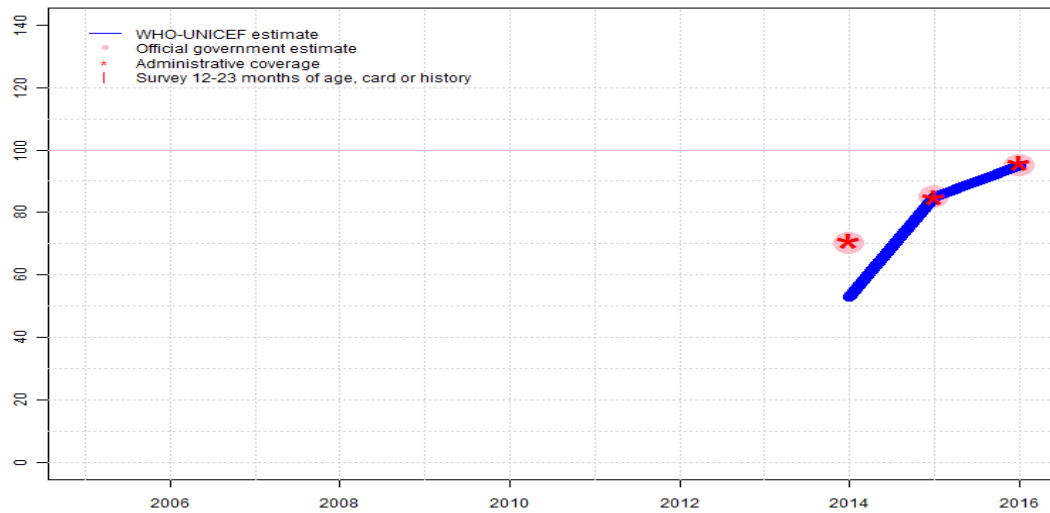
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Reported declines in reported coverage due in part to Ebola virus disease outbreak during 2014. Inconsistent and unexplained adjustment made to official coverage from administrative data. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Official estimate based on 2013 survey results. Estimate challenged by: D-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 88 percent based on 2 survey(s). Sierra Leone Demographic and Health Survey 2013 card or history results of 78 percent modified for recall bias to 85 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 72 percent and 3d dose card only coverage of 65 percent. Report on Sierra Leone Routine Immunization Coverage Survey - 2013 card or history results of 92 percent modified for recall bias to 90 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 91 percent and 3d dose card only coverage of 84 percent. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Official estimates were based on targets from cMYP. GoC=R+ S+
- 2011: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: R-
- 2010: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-
- 2009: Estimate of 84 percent assigned by working group. Estimate is based on survey results, consistent with other antigens. Sierra Leone Immunization Cluster Coverage Survey 2010 card or history results of 86 percent modified for recall bias to 84 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 74 percent and 3d dose card only coverage of 65 percent. Sierra Leone Multiple Indicator Cluster Survey 2010 card or history results of 69 percent modified for recall bias to 80 percent based on 1st dose card or history coverage of 86 percent, 1st dose card only coverage of 60 percent and 3d dose card only coverage of 56 percent. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: R-
- 2008: Reported data calibrated to 2007 and 2009 levels. Estimate challenged by: R-
- 2007: Estimate of 63 percent assigned by working group. Estimate follows DTP3 coverage levels. Hib vaccine introduced in 2007 Vaccine presentation is DTP-HepB-Hib. Estimate challenged by: R-S-

Sierra Leone - RotaC

SLE - RotaC



Description:

2016: Estimate based on coverage reported by national government. Estimate challenged by: D-
 2015: Following introduction, programme reports delivery to national target population. Estimate challenged by: D-
 2014: Estimate of 53 percent assigned by working group. Rotavirus vaccine introduced during 2014. Programme achieved 71 percent coverage among 75 percent of the target population. Estimate is based on national target population. Reported declines in reported coverage due in part to Ebola virus disease outbreak during 2014. Inconsistent and unexplained adjustment made to official coverage from administrative data. 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	53	85	95
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	•	•	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	70	85	95
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	71	85	96
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

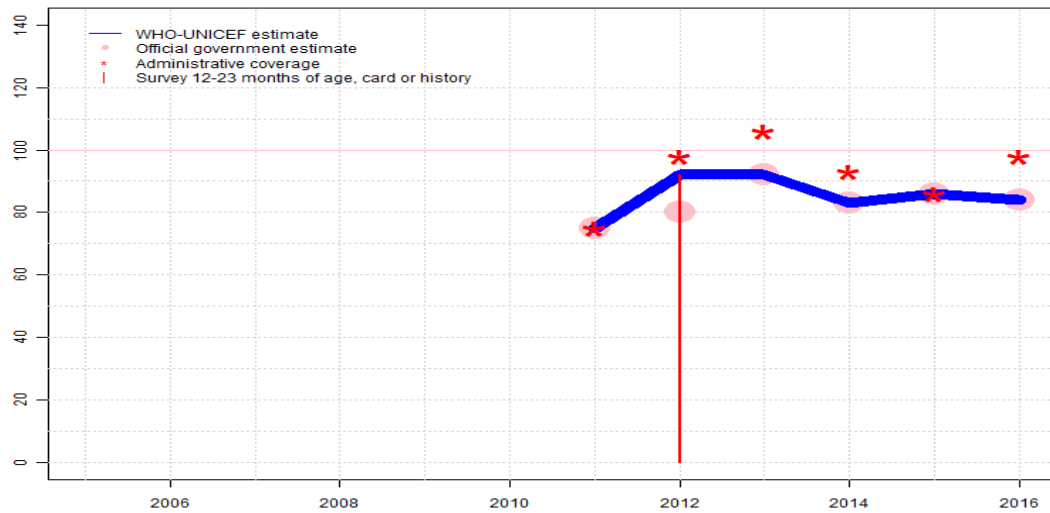
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Sierra Leone - PcV3

SLE - PcV3



Description:

- 2016: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Reported declines in reported coverage due in part to Ebola virus disease outbreak during 2014. Inconsistent and unexplained adjustment made to official coverage from administrative data. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Official estimate based on 2013 survey results. Estimate challenged by: D-
- 2012: Estimate based on extrapolation from data reported by national government supported by survey. Survey evidence of 90 percent based on 1 survey(s). Report on Sierra Leone Routine Immunization Coverage Survey - 2013 card or history results of 92 percent modified for recall bias to 90 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 89 percent and 3d dose card only coverage of 83 percent. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Official estimates were based on targets from cMYP. Estimate challenged by: D-
- 2011: Pneumococcal conjugate vaccine introduced 2011. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: R-S-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	75	92	92	83	86	84
Estimate GoC	NA	NA	NA	NA	NA	NA	•	•	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	75	80	92	83	86	84
Administrative	NA	NA	NA	NA	NA	NA	75	98	106	93	86	98
Survey	NA	NA	NA	NA	NA	NA	NA	92	NA	NA	NA	NA

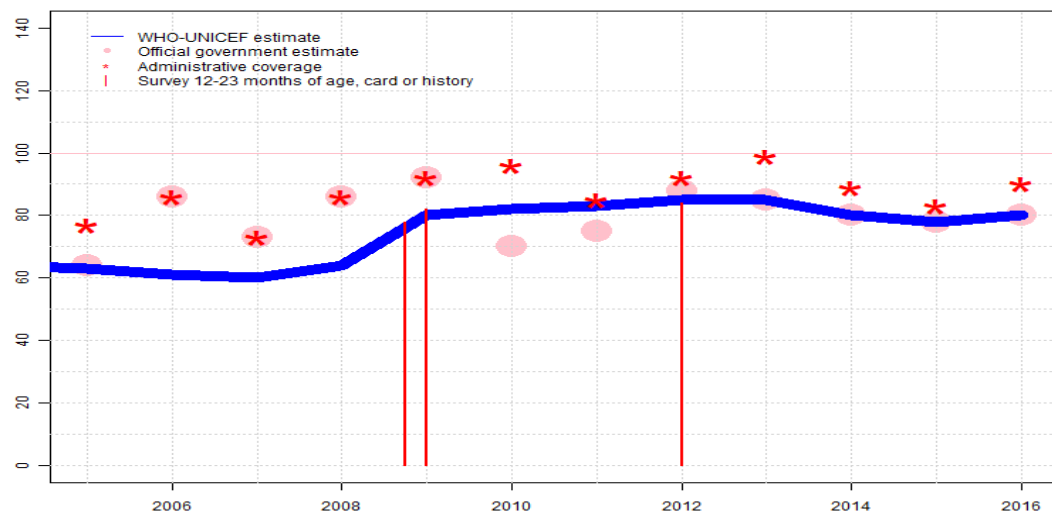
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Sierra Leone - YFV

SLE - YFV



Description:

- 2016: Estimate based on coverage reported by national government. Programme reports 2 months national stock-out. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Reported declines in reported coverage due in part to Ebola virus disease outbreak during 2014. Inconsistent and unexplained adjustment made to official coverage from administrative data. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Official estimate based on 2013 survey results. Estimate challenged by: D-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 84 percent based on 1 survey(s). Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Official estimates were based on targets from cMYP. Estimate challenged by: D-
- 2011: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: R-
- 2010: Reported data calibrated to 2009 and 2012 levels. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-
- 2009: Estimate of 80 percent assigned by working group. Estimate is based on survey results, consistent with other antigens. Reported data excluded. Nationally reported data ignore most recent survey in the downward adjustment of administrative coverage levels. Estimate challenged by: D-R-
- 2008: Estimate of 64 percent assigned by working group. Estimate based on reported data adjusted to MCV level of 2007 survey. Estimate challenged by: D-R-S-
- 2007: Estimate of 60 percent assigned by working group. Estimate follows MCV coverage levels. Reported data excluded due to decline in reported coverage from 86 percent to 73 percent with increase to 86 percent. Estimate challenged by: D-R-S-
- 2006: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Reported data excluded due to an unexplained increase from 64 percent to 86 percent with decrease 73 percent. Estimate challenged by: D-R-S-
- 2005: Estimate based on interpolation between 2004 and 2007 levels. Fluctuating and inconsistent data suggest poor reporting. Estimate challenged by: D-R-S-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	63	61	60	64	80	82	83	85	85	80	78	80
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	64	86	73	86	92	70	75	88	85	80	78	80
Administrative	77	86	73	86	92	96	85	92	99	89	83	90
Survey	NA	NA	NA	NA	*	NA	NA	84	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.

Sierra Leone - survey details

2012 Report on Sierra Leone Routine Immunization Coverage Survey - 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	99	12-23 m	4282	93
BCG	Card or Scar	92	12-23 m	-	93
DTP1	Card	91	12-23 m	-	93
DTP1	Card or History	98	12-23 m	4282	93
DTP3	Card	84	12-23 m	-	93
DTP3	Card or History	92	12-23 m	4282	93
HepB1	Card	91	12-23 m	-	93
HepB1	Card or History	98	12-23 m	4282	93
HepB3	Card	84	12-23 m	-	93
HepB3	Card or History	92	12-23 m	4282	93
Hib1	Card	91	12-23 m	-	93
Hib1	Card or History	98	12-23 m	4282	93
Hib3	Card	84	12-23 m	-	93
Hib3	Card or History	92	12-23 m	4282	93
MCV1	Card	74	12-23 m	-	93
MCV1	Card or History	84	12-23 m	4282	93
PcV1	Card	89	12-23 m	-	93
PcV1	Card or History	97	12-23 m	4282	93
PcV3	Card	83	12-23 m	-	93
PcV3	Card or History	92	12-23 m	4282	93
Pol1	Card	89	12-23 m	-	93
Pol1	Card or History	97	12-23 m	4282	93
Pol3	Card	83	12-23 m	-	93
Pol3	Card or History	92	12-23 m	4282	93
YFV	Card	74	12-23 m	-	93
YFV	Card or History	84	12-23 m	4282	93

2012 Sierra Leone Demographic and Health Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	95	12-23 m	2169	73
BCG	Card	73	12-23 m	1590	73
BCG	Card or History	96	12-23 m	2169	73
BCG	History	23	12-23 m	578	73
DTP1	C or H <12 months	93	12-23 m	2169	73

DTP1	Card	72	12-23 m	1590	73
DTP1	Card or History	94	12-23 m	2169	73
DTP1	History	21	12-23 m	578	73
DTP3	C or H <12 months	75	12-23 m	2169	73
DTP3	Card	65	12-23 m	1590	73
DTP3	Card or History	78	12-23 m	2169	73
DTP3	History	13	12-23 m	578	73
HepB1	C or H <12 months	93	12-23 m	2169	73
HepB1	Card	72	12-23 m	1590	73
HepB1	Card or History	94	12-23 m	2169	73
HepB1	History	21	12-23 m	578	73
HepB3	C or H <12 months	75	12-23 m	2169	73
HepB3	Card	65	12-23 m	1590	73
HepB3	Card or History	78	12-23 m	2169	73
HepB3	History	13	12-23 m	578	73
Hib1	C or H <12 months	93	12-23 m	2169	73
Hib1	Card	72	12-23 m	1590	73
Hib1	Card or History	94	12-23 m	2169	73
Hib1	History	21	12-23 m	578	73
Hib3	C or H <12 months	75	12-23 m	2169	73
Hib3	Card	65	12-23 m	1590	73
Hib3	Card or History	78	12-23 m	2169	73
Hib3	History	13	12-23 m	578	73
MCV1	C or H <12 months	68	12-23 m	2169	73
MCV1	Card	58	12-23 m	1590	73
MCV1	Card or History	79	12-23 m	2169	73
MCV1	History	20	12-23 m	578	73
Pol1	C or H <12 months	93	12-23 m	2169	73
Pol1	Card	73	12-23 m	1590	73
Pol1	Card or History	94	12-23 m	2169	73
Pol1	History	21	12-23 m	578	73
Pol3	C or H <12 months	74	12-23 m	2169	73
Pol3	Card	65	12-23 m	1590	73
Pol3	Card or History	78	12-23 m	2169	73
Pol3	History	13	12-23 m	578	73

2009 Sierra Leone Immunization Cluster Coverage Survey 2010

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
---------	---------------------	----------	------------	--------	------------

Sierra Leone - survey details

BCG	Card	78	12-23 m	-	78	HepB1	Card	60	12-23 m	1502	68
BCG	Card or History	96	12-23 m	4011	78	HepB1	Card or History	86	12-23 m	1502	68
DTP1	Card	74	12-23 m	-	78	HepB1	History	26	12-23 m	1502	68
DTP1	Card or History	96	12-23 m	4011	78	HepB3	C or H <12 months	64	12-23 m	1502	68
DTP3	Card	65	12-23 m	-	78	HepB3	Card	56	12-23 m	1502	68
DTP3	Card or History	86	12-23 m	4011	78	HepB3	Card or History	69	12-23 m	1502	68
HepB1	Card	74	12-23 m	-	78	HepB3	History	13	12-23 m	1502	68
HepB1	Card or History	96	12-23 m	4011	78	Hib1	C or H <12 months	83	12-23 m	1502	68
HepB3	Card	65	12-23 m	-	78	Hib1	Card	60	12-23 m	1502	68
HepB3	Card or History	86	12-23 m	4011	78	Hib1	Card or History	86	12-23 m	1502	68
Hib1	Card	74	12-23 m	-	78	Hib1	History	26	12-23 m	1502	68
Hib1	Card or History	96	12-23 m	4011	78	Hib3	C or H <12 months	64	12-23 m	1502	68
Hib3	Card	65	12-23 m	-	78	Hib3	Card	56	12-23 m	1502	68
Hib3	Card or History	86	12-23 m	4011	78	Hib3	Card or History	69	12-23 m	1502	68
MCV1	Card	57	12-23 m	-	78	Hib3	History	13	12-23 m	1502	68
MCV1	Card or History	78	12-23 m	4011	78	MCV1	C or H <12 months	68	12-23 m	1502	68
Pol1	Card	73	12-23 m	-	78	MCV1	Card	52	12-23 m	1502	68
Pol1	Card or History	96	12-23 m	4011	78	MCV1	Card or History	82	12-23 m	1502	68
Pol3	Card	64	12-23 m	-	78	MCV1	History	29	12-23 m	1502	68
Pol3	Card or History	85	12-23 m	4011	78	Pol1	C or H <12 months	86	12-23 m	1502	68
YFV	Card	57	12-23 m	-	78	Pol1	Card	61	12-23 m	1502	68
YFV	Card or History	78	12-23 m	4011	78	Pol1	Card or History	88	12-23 m	1502	68
						Pol1	History	27	12-23 m	1502	68
						Pol3	C or H <12 months	58	12-23 m	1502	68
						Pol3	Card	54	12-23 m	1502	68
						Pol3	Card or History	63	12-23 m	1502	68
						Pol3	History	9	12-23 m	1502	68
						YFV	C or H <12 months	68	12-23 m	1502	68
						YFV	Card	52	12-23 m	1502	68
						YFV	Card or History	82	12-23 m	1502	68
						YFV	History	29	12-23 m	1502	68

2009 Sierra Leone Multiple Indicator Cluster Survey 2010

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	95	12-23 m	1502	68
BCG	Card	67	12-23 m	1502	68
BCG	Card or History	96	12-23 m	1502	68
BCG	History	29	12-23 m	1502	68
DTP1	C or H <12 months	89	12-23 m	1502	68
DTP1	Card	64	12-23 m	1502	68
DTP1	Card or History	92	12-23 m	1502	68
DTP1	History	28	12-23 m	1502	68
DTP3	C or H <12 months	67	12-23 m	1502	68
DTP3	Card	58	12-23 m	1502	68
DTP3	Card or History	72	12-23 m	1502	68
DTP3	History	13	12-23 m	1502	68
HepB1	C or H <12 months	83	12-23 m	1502	68

2007 Sierra Leone Demographic and Health Survey 2008

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	80	12-23 m	1060	60
BCG	Card	59	12-23 m	1060	60
BCG	Card or History	82	12-23 m	1060	60
BCG	History	23	12-23 m	1060	60

Sierra Leone - survey details

DTP1	C or H <12 months	75	12-23 m	1060	60
DTP1	Card	55	12-23 m	1060	60
DTP1	Card or History	77	12-23 m	1060	60
DTP1	History	21	12-23 m	1060	60
DTP3	C or H <12 months	55	12-23 m	1060	60
DTP3	Card	46	12-23 m	1060	60
DTP3	Card or History	60	12-23 m	1060	60
DTP3	History	15	12-23 m	1060	60
MCV1	C or H <12 months	46	12-23 m	1060	60
MCV1	Card	40	12-23 m	1060	60
MCV1	Card or History	60	12-23 m	1060	60
MCV1	History	20	12-23 m	1060	60
Pol1	C or H <12 months	74	12-23 m	1060	60
Pol1	Card	53	12-23 m	1060	60
Pol1	Card or History	76	12-23 m	1060	60
Pol1	History	22	12-23 m	1060	60
Pol3	C or H <12 months	45	12-23 m	1060	60
Pol3	Card	44	12-23 m	1060	60
Pol3	Card or History	50	12-23 m	1060	60
Pol3	History	6	12-23 m	1060	60

2004 Sierra Leone Multiple Indicator Cluster Survey 2005

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	84	12-23 m	1074	53
BCG	Card	50	12-23 m	1074	53
BCG	Card or History	86	12-23 m	1074	53
BCG	History	36	12-23 m	1074	53
DTP1	C or H <12 months	78	12-23 m	1074	53
DTP1	Card	47	12-23 m	1074	53
DTP1	Card or History	82	12-23 m	1074	53
DTP1	History	35	12-23 m	1074	53
DTP3	C or H <12 months	56	12-23 m	1074	53
DTP3	Card	37	12-23 m	1074	53
DTP3	Card or History	63	12-23 m	1074	53
DTP3	History	25	12-23 m	1074	53
MCV1	C or H <12 months	62	12-23 m	1074	53
MCV1	Card	33	12-23 m	1074	53

MCV1	Card or History	76	12-23 m	1074	53
MCV1	History	43	12-23 m	1074	53
Pol1	C or H <12 months	84	12-23 m	1074	53
Pol1	Card	48	12-23 m	1074	53
Pol1	Card or History	87	12-23 m	1074	53
Pol1	History	38	12-23 m	1074	53
Pol3	C or H <12 months	57	12-23 m	1074	53
Pol3	Card	38	12-23 m	1074	53
Pol3	Card or History	64	12-23 m	1074	53
Pol3	History	26	12-23 m	1074	53
YFV	C or H <12 months	60	12-23 m	1074	53
YFV	Card	31	12-23 m	1074	53
YFV	Card or History	74	12-23 m	1074	53
YFV	History	44	12-23 m	1074	53

2000 Sierra Leone, EPI National Coverage Evaluation Survey 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	74	12-23 m	3385	74
DTP1	Card or History	64	12-23 m	3385	74
DTP3	Card or History	44	12-23 m	3385	74
MCV1	Card or History	37	12-23 m	3385	74
Pol1	Card or History	66	12-23 m	3385	74
Pol3	Card or History	46	12-23 m	3385	74

1999 Sierra Leone, Multi-Indicator Cluster Survey-MICS2, Final Report, 2000

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	73	12-23 m	547	35
DTP1	Card or History	68	12-23 m	547	35
DTP3	Card or History	46	12-23 m	547	35
MCV1	Card or History	62	12-23 m	547	35
Pol1	Card or History	82	12-23 m	547	35
Pol3	Card or History	61	12-23 m	547	35

Sierra Leone - survey details

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