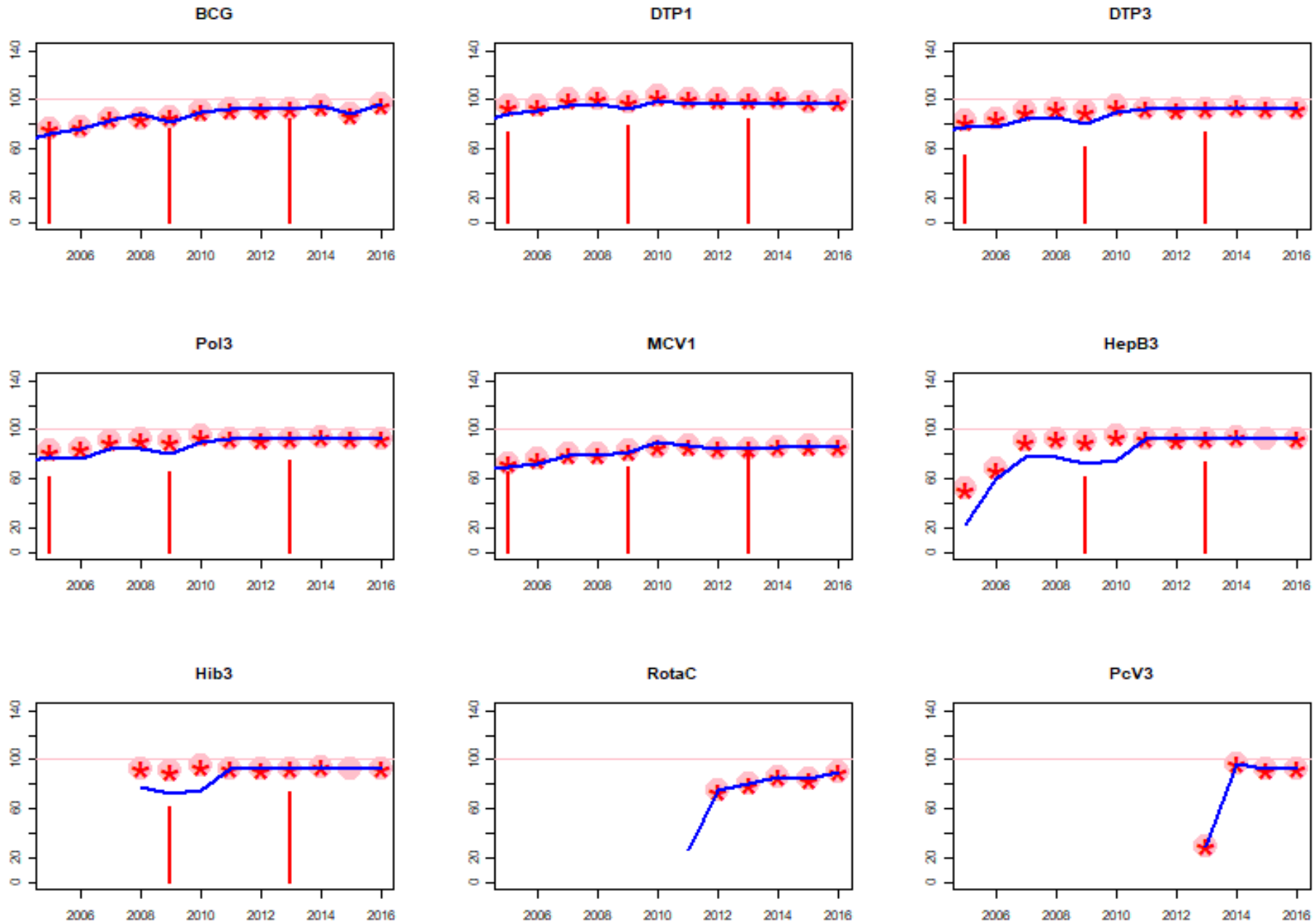


Sudan: WHO and UNICEF estimates of immunization coverage: 2016 revision



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.

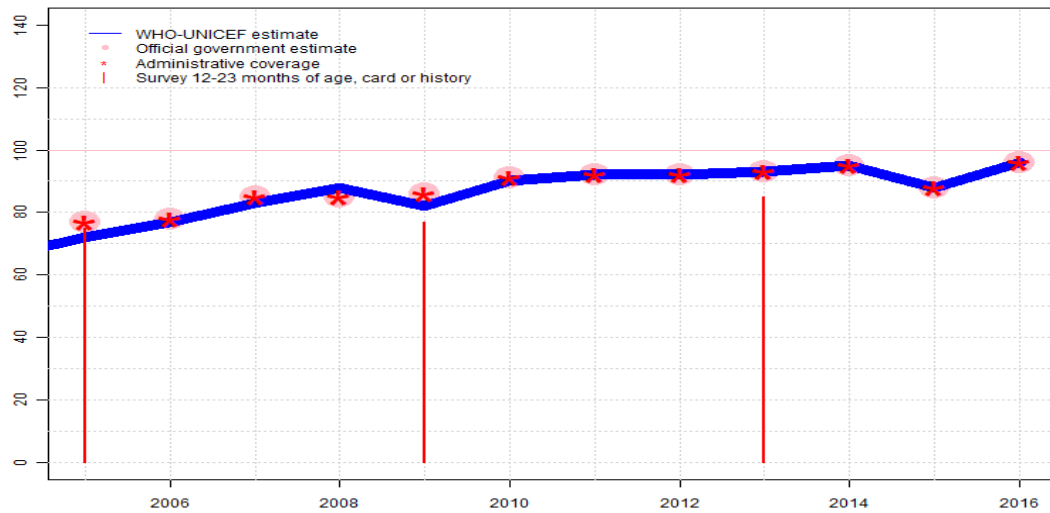
PcV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

SDN - BCG



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	72	77	83	88	82	90	92	92	93	95	88	96
Estimate GoC	•	•	•	•	•	•	•••	•	•	•	•	•
Official	77	78	85	85	86	91	92	92	93	95	88	96
Administrative	77	78	85	85	86	91	92	92	93	95	88	96
Survey	75	NA	NA	NA	77	NA	NA	NA	85	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.

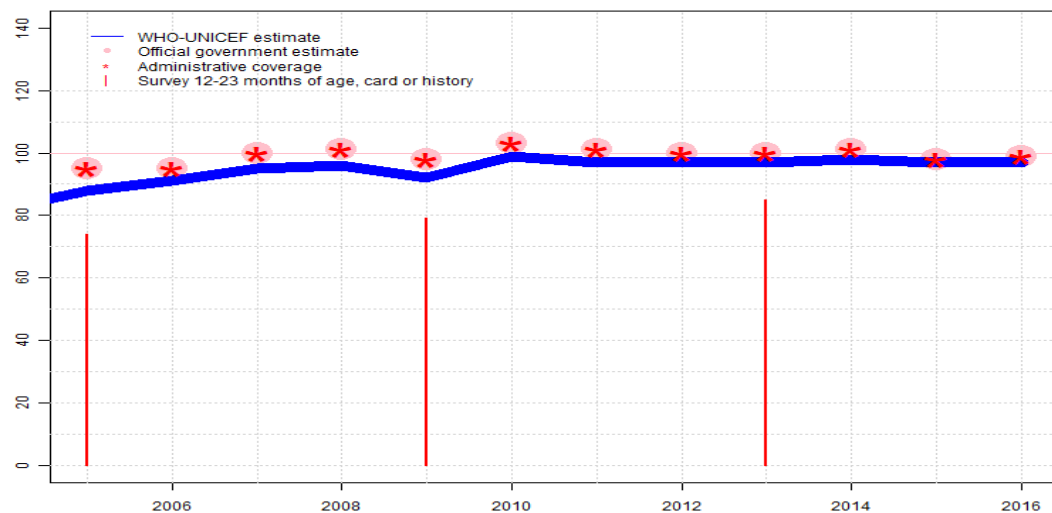
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

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. Estimate challenged by: D-
 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 85 percent based on 1 survey(s). Estimate challenged by: D-
 2012: Estimate based on coverage reported by national government. Estimate challenged by: D-
 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
 2010: See explanation for the previous year. Estimate challenged by: D-R-
 2009: Southern Sudan revised target population. Estimates are based on combined reports from national authorities from southern and northern Sudan. Sudan Household Health Survey - Second Round SHHS2 2010 results ignored by working group. While survey results reflect coverage for the Republic of Sudan, prior to 2011 WHO and UNICEF estimates of coverage were based on the combined coverage for the Republic of Sudan and Republic of South Sudan. Estimate challenged by: D-R-
 2008: See explanation for the previous year. Estimate challenged by: D-R-
 2007: See explanation for the previous year. Estimate challenged by: D-R-
 2006: See explanation for the previous year. Estimate challenged by: D-R-
 2005: Estimates of the target population are based on data from the United Nations Fund for Population Activities (UNFPA) and the Central Bureau of Statistics Sudan. Estimated number of children vaccinated is based on reports by the Ministry of Health. Sudan Household Health Survey 2006 results ignored by working group. 2005 survey results are not considered; sample size of children 12-23 months of age not reported. Estimate challenged by: R-

Sudan - DTP1

SDN - DTP1



Description:

- 2016: DTP1 coverage estimated based on DTP3 coverage of 93. Estimate challenged by: D-R-
- 2015: DTP1 coverage estimated based on DTP3 coverage of 93. Estimate challenged by: D-R-S-
- 2014: DTP1 coverage estimated based on DTP3 coverage of 94. Reported data excluded because 101 percent greater than 100 percent. Estimate challenged by: D-R-S-
- 2013: DTP1 coverage estimated based on DTP3 coverage of 93. Estimate challenged by: D-R-S-
- 2012: DTP1 coverage estimated based on DTP3 coverage of 92. Estimate challenged by: R-S-
- 2011: DTP1 coverage estimated based on DTP3 coverage of 93. Reported data excluded because 101 percent greater than 100 percent. Estimate challenged by: R-S-
- 2010: See explanation for the previous year. Reported data excluded because 103 percent greater than 100 percent. Estimate challenged by: D-R-
- 2009: Southern Sudan revised target population. Estimates are based on combined reports from national authorities from southern and northern Sudan. Sudan Household Health Survey - Second Round SHHS2 2010 results ignored by working group. While survey results reflect coverage for the Republic of Sudan, prior to 2011 WHO and UNICEF estimates of coverage were based on the combined coverage for the Republic of Sudan and Republic of South Sudan. Estimate challenged by: D-R-
- 2008: See explanation for the previous year. Reported data excluded because 101 percent greater than 100 percent. Estimate challenged by: D-R-
- 2007: See explanation for the previous year. Estimate challenged by: D-R-
- 2006: See explanation for the previous year. Estimate challenged by: D-R-
- 2005: Estimates of the target population are based on data from the United Nations Fund for Population Activities (UNFPA) and the Central Bureau of Statistics Sudan. Estimated number of children vaccinated is based on reports by the Ministry of Health. Sudan Household Health Survey 2006 results ignored by working group. 2005 survey results are not considered; sample size of children 12-23 months of age not reported. Estimate challenged by: D-R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	88	91	95	96	92	99	97	97	97	98	97	97
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	95	95	100	101	98	103	101	100	100	101	98	99
Administrative	95	95	100	101	98	103	101	100	100	101	98	99
Survey	74	NA	NA	NA	79	NA	NA	NA	85	NA	NA	NA

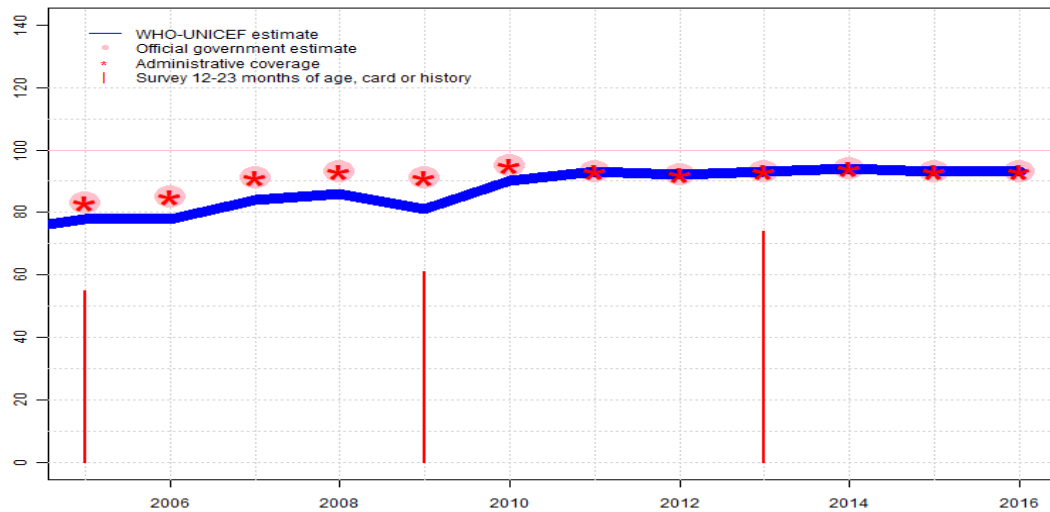
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Sudan - DTP3

SDN - DTP3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	78	78	84	86	81	90	93	92	93	94	93	93
Estimate GoC	•	•	•	•	•	•	•••	•••	•••	•	•	•
Official	83	85	91	93	91	95	93	92	93	94	93	93
Administrative	83	85	91	93	91	95	93	92	93	94	93	93
Survey	55	NA	NA	NA	61	NA	NA	NA	74	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.

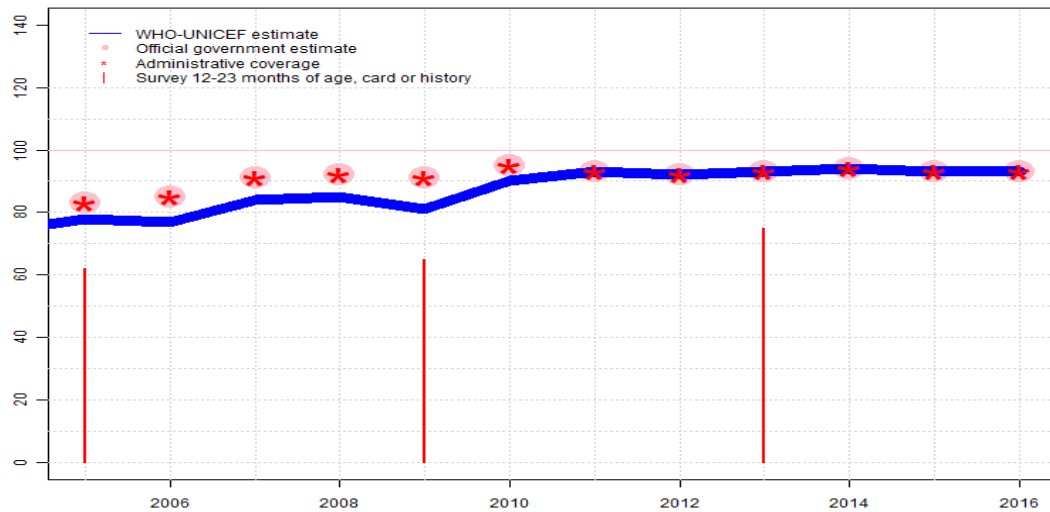
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

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. Estimate challenged by: S-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). Sudan Multiple Indicator Cluster Survey 2014 card or history results of 74 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 85 percent, 1st dose card only coverage of 44 percent and 3d dose card only coverage of 43 percent. GoC=R+ S+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2011: Estimate is based on reported data. GoC=R+ S+ D+
- 2010: See explanation for the previous year. Estimate challenged by: D-R-
- 2009: Southern Sudan revised target population. Estimates are based on combined reports from national authorities from southern and northern Sudan. Sudan Household Health Survey - Second Round SHHS2 2010 results ignored by working group. While survey results reflect coverage for the Republic of Sudan, prior to 2011 WHO and UNICEF estimates of coverage were based on the combined coverage for the Republic of Sudan and Republic of South Sudan. Sudan Household Health Survey - Second Round SHHS2 2010 card or history results of 61 percent modified for recall bias to 73 percent based on 1st dose card or history coverage of 79 percent, 1st dose card only coverage of 40 percent and 3d dose card only coverage of 37 percent. Estimate challenged by: D-R-
- 2008: See explanation for the previous year. Estimate challenged by: D-R-
- 2007: See explanation for the previous year. Estimate challenged by: D-R-
- 2006: Estimates of the target population are based on data from the United Nations Fund for Population Activities (UNFPA) and the Central Bureau of Statistics Sudan. Estimated number of children vaccinated is based on reported immunizations from the northern se Estimate challenged by: D-R-
- 2005: Estimates of the target population are based on data from the United Nations Fund for Population Activities (UNFPA) and the Central Bureau of Statistics Sudan. Estimated number of children vaccinated is based on reports by the Ministry of Health. Sudan Household Health Survey 2006 results ignored by working group. 2005 survey results are not considered; sample size of children 12-23 months of age not reported. Sudan Household Health Survey 2006 card or history results of 55 percent modified for recall bias to 67 percent based on 1st dose card or history coverage of 74 percent, 1st dose card only coverage of 33 percent and 3d dose card only coverage of 30 percent. Estimate challenged by: D-R-

Sudan - Pol3

SDN - Pol3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	78	77	84	85	81	90	93	92	93	94	93	93
Estimate GoC	•	•	•	•	•	•	•••	•••	•••	•	•	•
Official	83	85	91	92	91	95	93	92	93	94	93	93
Administrative	83	85	91	92	91	95	93	92	93	94	93	93
Survey	62	NA	NA	NA	65	NA	NA	NA	75	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.

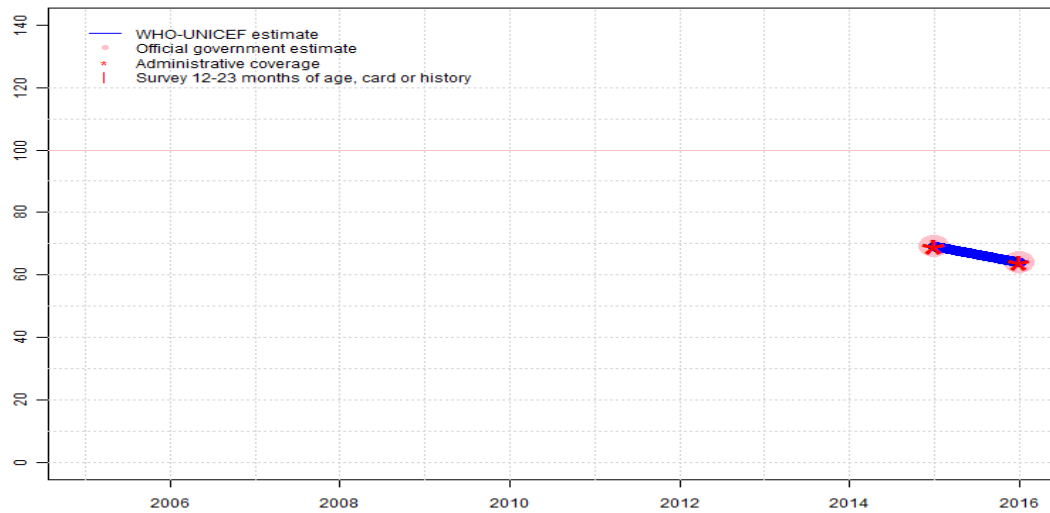
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

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. GoC=Assigned by working group. Consistency with other vaccines.
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 86 percent based on 1 survey(s). Sudan Multiple Indicator Cluster Survey 2014 card or history results of 75 percent modified for recall bias to 86 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 44 percent and 3d dose card only coverage of 43 percent. GoC=R+ S+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2011: Estimate is based on reported data. GoC=R+ S+ D+
- 2010: See explanation for the previous year. Estimate challenged by: D-R-
- 2009: Southern Sudan revised target population. Estimates are based on combined reports from national authorities from southern and northern Sudan. Sudan Household Health Survey - Second Round SHHS2 2010 results ignored by working group. While survey results reflect coverage for the Republic of Sudan, prior to 2011 WHO and UNICEF estimates of coverage were based on the combined coverage for the Republic of Sudan and Republic of South Sudan. Sudan Household Health Survey - Second Round SHHS2 2010 card or history results of 65 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 40 percent and 3d dose card only coverage of 37 percent. Estimate challenged by: D-R-
- 2008: See explanation for the previous year. Estimate challenged by: D-R-
- 2007: See explanation for the previous year. Estimate challenged by: D-R-
- 2006: See explanation for the previous year. Estimate challenged by: D-R-
- 2005: Estimates of the target population are based on data from the United Nations Fund for Population Activities (UNFPA) and the Central Bureau of Statistics Sudan. Estimated number of children vaccinated is based on reports by the Ministry of Health. Sudan Household Health Survey 2006 results ignored by working group. 2005 survey results are not considered; sample size of children 12-23 months of age not reported. Sudan Household Health Survey 2006 card or history results of 62 percent modified for recall bias to 73 percent based on 1st dose card or history coverage of 83 percent, 1st dose card only coverage of 33 percent and 3d dose card only coverage of 29 percent. Estimate challenged by: D-R-

Sudan - IPV1

SDN - IPV1



Description:

2016: Estimate based on coverage reported by national government. Programme reports vaccine supply disruption of unknown duration. Estimate challenged by: D-
 2015: Estimate based on coverage reported by national government. IPV introduced during June 2015. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	69	64
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	••	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	69	64
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	69	64
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

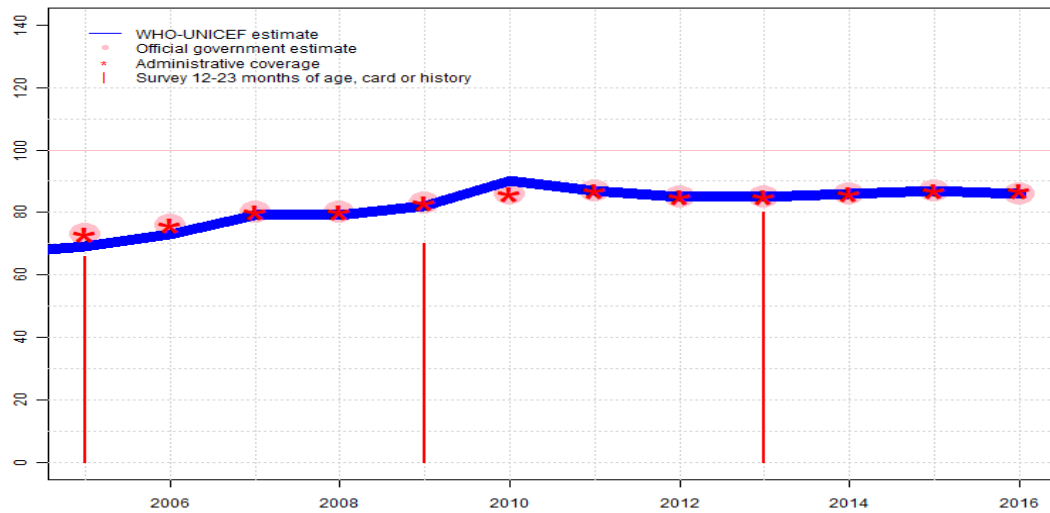
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Sudan - MCV1

SDN - MCV1



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. GoC=R+ S+ D+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 80 percent based on 1 survey(s). GoC=R+ S+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2011: Estimate is based on reported data. GoC=R+ S+ D+
- 2010: See explanation for the previous year. Estimate challenged by: D-R-
- 2009: Southern Sudan revised target population. Estimates are based on combined reports from national authorities from southern and northern Sudan. Sudan Household Health Survey - Second Round SHHS2 2010 results ignored by working group. While survey results reflect coverage for the Republic of Sudan, prior to 2011 WHO and UNICEF estimates of coverage were based on the combined coverage for the Republic of Sudan and Republic of South Sudan. Estimate challenged by: D-R-
- 2008: See explanation for the previous year. Estimate challenged by: D-R-
- 2007: See explanation for the previous year. Estimate challenged by: D-R-
- 2006: See explanation for the previous year. Estimate challenged by: D-R-
- 2005: Estimates of the target population are based on data from the United Nations Fund for Population Activities (UNFPA) and the Central Bureau of Statistics Sudan. Estimated number of children vaccinated is based on reports by the Ministry of Health. Sudan Household Health Survey 2006 results ignored by working group. 2005 survey results are not considered; sample size of children 12-23 months of age not reported. Estimate challenged by: D-R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	69	73	79	79	82	90	87	85	85	86	87	86
Estimate GoC	•	•	•	•	•	•	•••	•••	•••	•••	•	•
Official	73	76	80	80	83	86	87	85	85	86	87	86
Administrative	73	76	80	80	83	86	87	85	85	86	87	87
Survey	66	NA	NA	NA	70	NA	NA	NA	80	NA	NA	NA

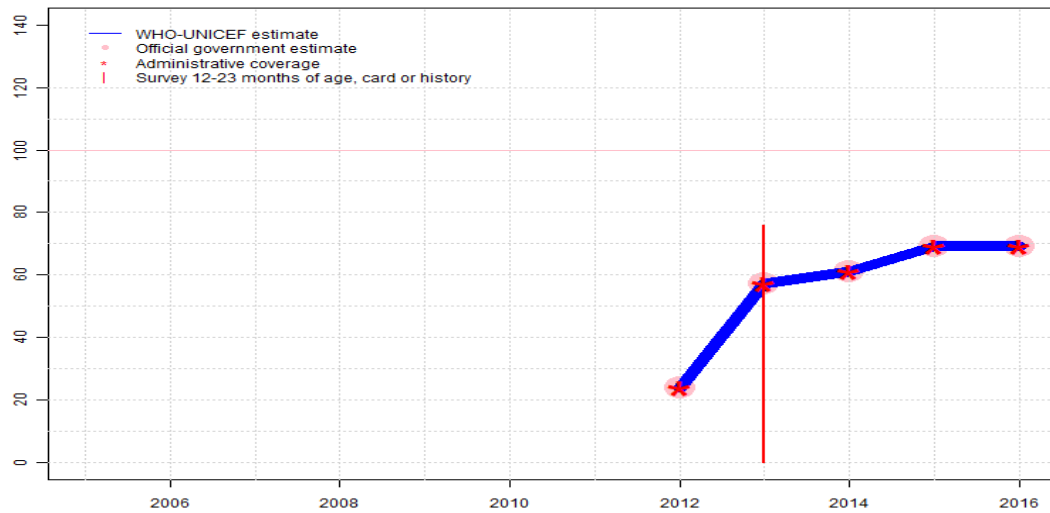
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- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While 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.

Sudan - MCV2

SDN - 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. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government. Sudan Multiple Indicator Cluster Survey 2014 results ignored by working group. Survey results likely reflect doses administered in campaigns. Expansion of second dose of measles vaccine. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. Measles second dose introduced in 2012 and recommended for administration at 18 months of age. Estimate challenged by: D-

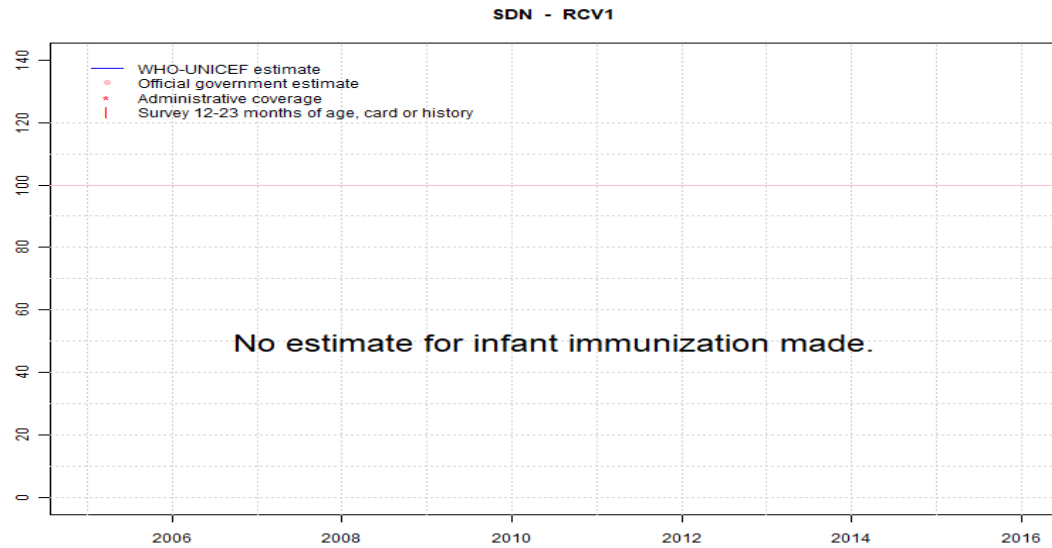
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	24	57	61	69	69
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	•	••	••	••	•
Official	NA	NA	NA	NA	NA	NA	NA	24	57	61	69	69
Administrative	NA	NA	NA	NA	NA	NA	NA	24	57	61	69	69
Survey	NA	NA	NA	NA	NA	NA	NA	NA	76	NA	NA	NA

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.

Sudan - RCV1



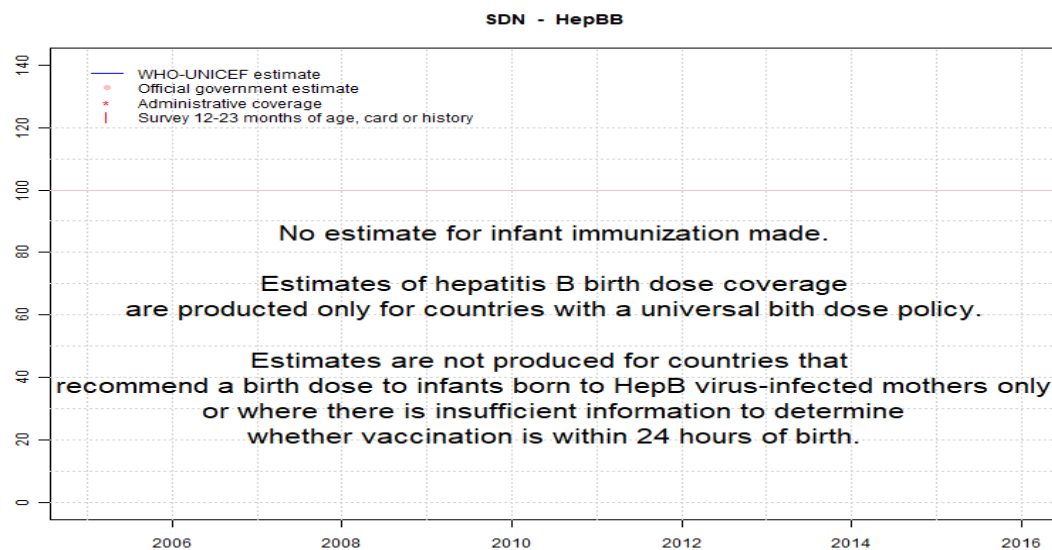
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

Sudan - 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

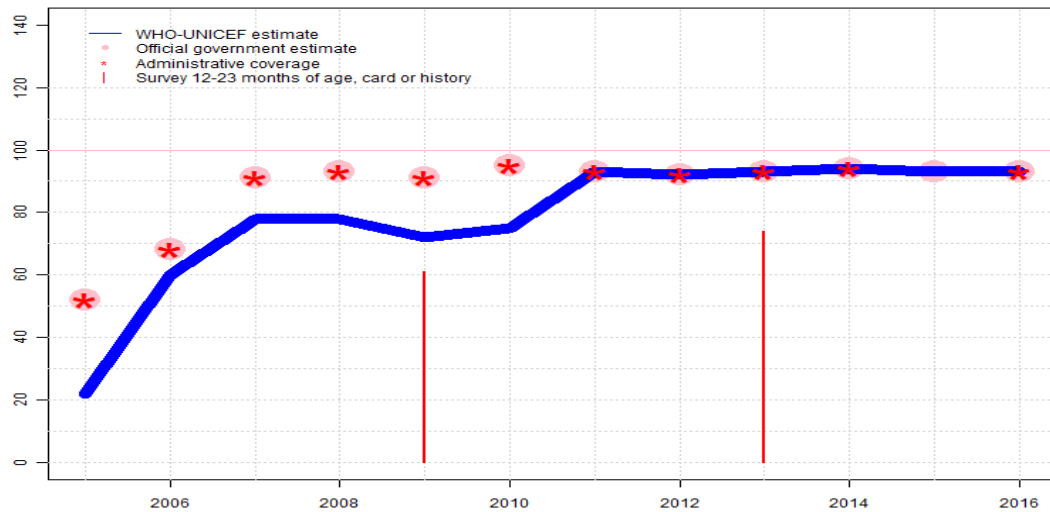
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Sudan - HepB3

SDN - HepB3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	22	60	78	78	72	75	93	92	93	94	93	93
Estimate GoC	•	•	•	•	•	•	•••	•••	•••	•	••	•
Official	52	68	91	93	91	95	93	92	93	94	93	93
Administrative	52	68	91	93	91	95	93	92	93	94	NA	93
Survey	NA	NA	NA	NA	61	NA	NA	NA	74	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.

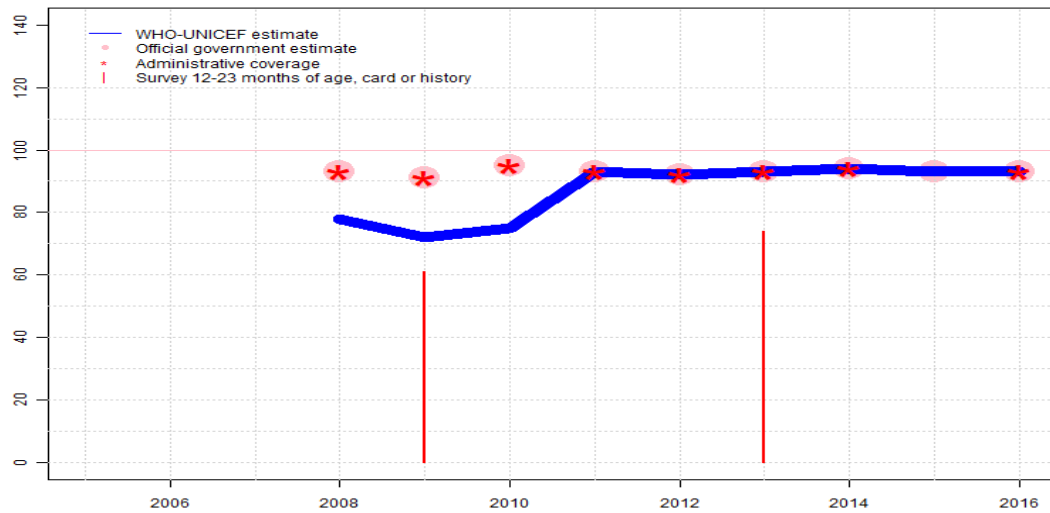
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: S-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). Sudan Multiple Indicator Cluster Survey 2014 card or history results of 74 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 85 percent, 1st dose card only coverage of 44 percent and 3d dose card only coverage of 43 percent. GoC=R+ S+ D+
- 2012: Estimate based on reported data. GoC=R+ S+ D+
- 2011: Estimate based on reported data. GoC=R+ S+ D+
- 2010: See explanation for the previous year. Estimate challenged by: R-
- 2009: DTP-HepB-Hib combination vaccine used in Northern Sudan. HepB vaccine not introduced in Southern Sudan, Estimate adjusted to reflect the difference in vaccine availability. Sudan Household Health Survey - Second Round SHHS2 2010 results ignored by working group. While survey results reflect coverage for the Republic of Sudan, prior to 2011 WHO and UNICEF estimates of coverage were based on the combined coverage for the Republic of Sudan and Republic of South Sudan. Sudan Household Health Survey - Second Round SHHS2 2010 card or history results of 61 percent modified for recall bias to 73 percent based on 1st dose card or history coverage of 79 percent, 1st dose card only coverage of 40 percent and 3d dose card only coverage of 37 percent. Estimate challenged by: R-
- 2008: DTP-HepB-Hib combination vaccine used in Northern Sudan. HepB vaccine not introduced in Southern Sudan, Estimate adjusted to reflect the difference in vaccine availability. DTP-HepB-Hib pentavalent vaccine introduced in Northern Sudan in 2008. Estimate challenged by: R-
- 2007: See explanation for the previous year. Estimate challenged by: D-R-
- 2006: Estimates of the target population are based on data from the United Nations Fund for Population Activities (UNFPA) and the Central Bureau of Statistics Sudan. Estimated number of children vaccinated is based on reported immunizations from the northern se Estimate challenged by: D-R-
- 2005: Estimates are based on reports by the Ministry of Health using estimates of surviving infants based on data from the United Nations Fund for Population Activities (UNFPA) and the Central Bureau of Statistics Sudan. HepB introduction started in 2004 in North Sudan reporting started in 2005. Estimate challenged by: R-

Sudan - Hib3

SDN - Hib3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	78	72	75	93	92	93	94	93	93
Estimate GoC	NA	NA	NA	•	•	•	•••	•••	•••	•	••	•
Official	NA	NA	NA	93	91	95	93	92	93	94	93	93
Administrative	NA	NA	NA	93	91	95	93	92	93	94	NA	93
Survey	NA	NA	NA	NA	61	NA	NA	NA	74	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.

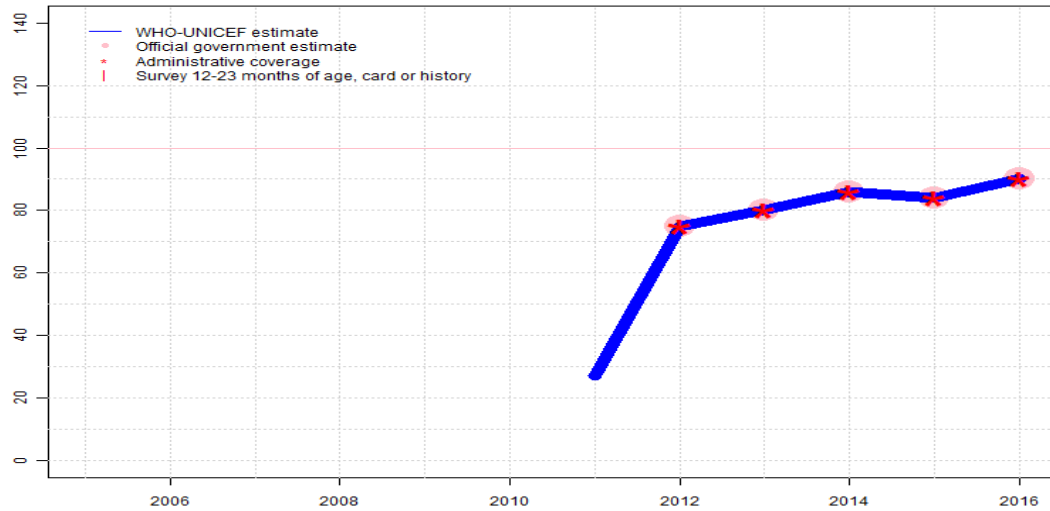
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: S-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). Sudan Multiple Indicator Cluster Survey 2014 card or history results of 74 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 85 percent, 1st dose card only coverage of 44 percent and 3d dose card only coverage of 43 percent. GoC=R+ S+ D+
- 2012: Estimate based on reported data. GoC=R+ S+ D+
- 2011: Estimate based on reported data. GoC=R+ S+ D+
- 2010: See explanation for the previous year. Estimate challenged by: R-
- 2009: DTP-HepB-Hib combination vaccine used in Northern Sudan. Hib vaccine not introduced in Southern Sudan. Estimate adjusted to reflect the difference in vaccine availability. Sudan Household Health Survey - Second Round SHHS2 2010 results ignored by working group. While survey results reflect coverage for the Republic of Sudan, prior to 2011 WHO and UNICEF estimates of coverage were based on the combined coverage for the Republic of Sudan and Republic of South Sudan. Sudan Household Health Survey - Second Round SHHS2 2010 card or history results of 61 percent modified for recall bias to 73 percent based on 1st dose card or history coverage of 79 percent, 1st dose card only coverage of 40 percent and 3d dose card only coverage of 37 percent. Estimate challenged by: R-
- 2008: DTP-HepB-Hib combination vaccine used in Northern Sudan. Hib vaccine not introduced in Southern Sudan. Estimate adjusted to reflect the difference in vaccine availability. Hib partially introduced in 2008. Reporting started in 2008. Vaccine presentation is DTP-HepB-Hib. Estimate challenged by: R-

Sudan - RotaC

SDN - RotaC



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. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Rotavirus vaccine introduced in 2011. Coverage of 64 percent reached in 42 percent of the population. GoC=D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	27	75	80	86	84	90
Estimate GoC	NA	NA	NA	NA	NA	NA	••	••	••	••	•	•
Official	NA	NA	NA	NA	NA	NA	NA	75	80	86	84	90
Administrative	NA	NA	NA	NA	NA	NA	NA	75	80	86	84	90
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

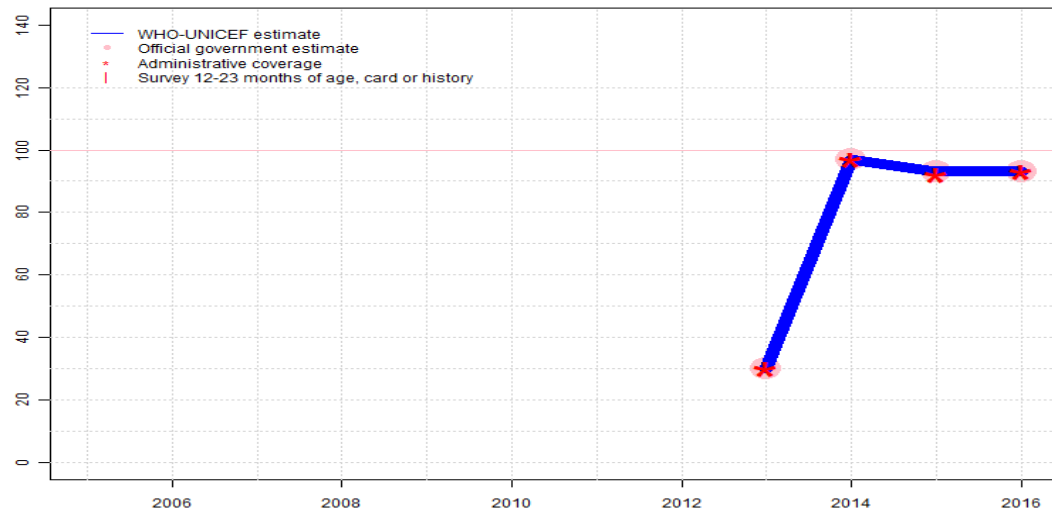
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Sudan - PcV3

SDN - 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. GoC=R+ D+
 2013: Estimate based on coverage reported by national government. Pneumococcal conjugate vaccine introduced in August 2013. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	30	97	93	93
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	••	••	•	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	30	97	93	93
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	30	97	92	93
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.

Sudan - survey details

2013 Sudan Multiple Indicator Cluster Survey 2014

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	78	12-23 m	-	44
BCG	Card	44	12-23 m	2672	44
BCG	Card or History	85	12-23 m	2672	44
BCG	History	42	12-23 m	2672	44
DTP1	C or H <12 months	81	12-23 m	-	44
DTP1	Card	44	12-23 m	2672	44
DTP1	Card or History	85	12-23 m	2672	44
DTP1	History	40	12-23 m	2672	44
DTP3	C or H <12 months	64	12-23 m	-	44
DTP3	Card	43	12-23 m	2672	44
DTP3	Card or History	74	12-23 m	2672	44
DTP3	History	30	12-23 m	2672	44
HepB1	C or H <12 months	81	12-23 m	-	44
HepB1	Card	44	12-23 m	2672	44
HepB1	Card or History	85	12-23 m	2672	44
HepB1	History	40	12-23 m	2672	44
HepB3	C or H <12 months	64	12-23 m	-	44
HepB3	Card	43	12-23 m	2672	44
HepB3	Card or History	74	12-23 m	2672	44
HepB3	History	30	12-23 m	2672	44
Hib1	C or H <12 months	81	12-23 m	-	44
Hib1	Card	44	12-23 m	2672	44
Hib1	Card or History	85	12-23 m	2672	44
Hib1	History	40	12-23 m	2672	44
Hib3	C or H <12 months	64	12-23 m	-	44
Hib3	Card	43	12-23 m	2672	44
Hib3	Card or History	74	12-23 m	2672	44
Hib3	History	30	12-23 m	2672	44
MCV1	C or H <12 months	61	12-23 m	-	44
MCV1	Card	42	12-23 m	2672	44
MCV1	Card or History	80	12-23 m	2672	44
MCV1	History	38	12-23 m	2672	44
MCV2	C or H <12 months	9	12-23 m	-	44
MCV2	Card	37	12-23 m	2672	44
MCV2	Card or History	76	12-23 m	2672	44
MCV2	History	39	12-23 m	2672	44
Pol1	C or H <12 months	84	12-23 m	-	44

Pol1	Card	44	12-23 m	2672	44
Pol1	Card or History	88	12-23 m	2672	44
Pol1	History	44	12-23 m	2672	44
Pol3	C or H <12 months	65	12-23 m	-	44
Pol3	Card	43	12-23 m	2672	44
Pol3	Card or History	75	12-23 m	2672	44
Pol3	History	32	12-23 m	2672	44

2009 Sudan Household Health Survey - Second Round SHHS2 2010

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	75	12-23 m	2612	41
BCG	Card	39	12-23 m	-	41
BCG	Card or History	77	12-23 m	2612	41
BCG	History	37	12-23 m	-	41
DTP1	C or H <12 months	75	12-23 m	2612	41
DTP1	Card	40	12-23 m	-	41
DTP1	Card or History	79	12-23 m	2612	41
DTP1	History	38	12-23 m	-	41
DTP3	C or H <12 months	58	12-23 m	2612	41
DTP3	Card	37	12-23 m	-	41
DTP3	Card or History	61	12-23 m	2612	41
DTP3	History	24	12-23 m	-	41
HepB1	C or H <12 months	75	12-23 m	2612	41
HepB1	Card	40	12-23 m	-	41
HepB1	Card or History	79	12-23 m	2612	41
HepB1	History	38	12-23 m	-	41
HepB3	C or H <12 months	58	12-23 m	2612	41
HepB3	Card	37	12-23 m	-	41
HepB3	Card or History	61	12-23 m	2612	41
HepB3	History	24	12-23 m	-	41
Hib1	C or H <12 months	75	12-23 m	2612	41
Hib1	Card	40	12-23 m	-	41
Hib1	Card or History	79	12-23 m	2612	41
Hib1	History	38	12-23 m	-	41
Hib3	C or H <12 months	58	12-23 m	2612	41
Hib3	Card	37	12-23 m	-	41
Hib3	Card or History	61	12-23 m	2612	41
Hib3	History	24	12-23 m	-	41

Sudan - survey details

MCV1	C or H <12 months	62	12-23 m	2612	41
MCV1	Card	38	12-23 m	-	41
MCV1	Card or History	70	12-23 m	2612	41
MCV1	History	32	12-23 m	-	41
Pol1	C or H <12 months	83	12-23 m	2612	41
Pol1	Card	40	12-23 m	-	41
Pol1	Card or History	86	12-23 m	2612	41
Pol1	History	46	12-23 m	-	41
Pol3	C or H <12 months	62	12-23 m	2612	41
Pol3	Card	37	12-23 m	-	41
Pol3	Card or History	65	12-23 m	2612	41
Pol3	History	28	12-23 m	-	41

2005 Sudan Household Health Survey 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	73	12-23 m	1165621	35
BCG	Card	32	12-23 m	1165621	35
BCG	Card or History	75	12-23 m	1165621	35
BCG	History	42	12-23 m	1165621	35
DTP1	C or H <12 months	71	12-23 m	1165621	35
DTP1	Card	33	12-23 m	1165621	35
DTP1	Card or History	74	12-23 m	1165621	35
DTP1	History	41	12-23 m	1165621	35
DTP3	C or H <12 months	53	12-23 m	1165621	35
DTP3	Card	30	12-23 m	1165621	35
DTP3	Card or History	55	12-23 m	1165621	35
DTP3	History	25	12-23 m	1165621	35
MCV1	C or H <12 months	59	12-23 m	1165621	35
MCV1	Card	28	12-23 m	1165621	35
MCV1	Card or History	66	12-23 m	1165621	35
MCV1	History	38	12-23 m	1165621	35
Pol1	C or H <12 months	80	12-23 m	1165621	35
Pol1	Card	33	12-23 m	1165621	35
Pol1	Card or History	83	12-23 m	1165621	35

Pol1	History	49	12-23 m	1165621	35
Pol3	C or H <12 months	60	12-23 m	1165621	35
Pol3	Card	29	12-23 m	1165621	35
Pol3	Card or History	62	12-23 m	1165621	35
Pol3	History	32	12-23 m	1165621	35

1999 Sudan Multiple Indicator Cluster Survey 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	65	12-23 m	3720	27
BCG	Card	25	12-23 m	3720	27
BCG	Card or history	66	12-23 m	3720	27
BCG	History	42	12-23 m	3720	27
DTP1	C or H <12 months	65	12-23 m	3720	27
DTP1	Card	24	12-23 m	3720	27
DTP1	Card or history	66	12-23 m	3720	27
DTP1	History	42	12-23 m	3720	27
DTP3	C or H <12 months	42	12-23 m	3720	27
DTP3	Card	20	12-23 m	3720	27
DTP3	Card or history	44	12-23 m	3720	27
DTP3	History	24	12-23 m	3720	27
MCV1	C or H <12 months	45	12-23 m	3720	27
MCV1	Card	18	12-23 m	3720	27
MCV1	Card or history	51	12-23 m	3720	27
MCV1	History	34	12-23 m	3720	27
Pol1	C or H <12 months	73	12-23 m	3720	27
Pol1	Card	21	12-23 m	3720	27
Pol1	Card or history	75	12-23 m	3720	27
Pol1	History	53	12-23 m	3720	27
Pol3	C or H <12 months	44	12-23 m	3720	27
Pol3	Card	18	12-23 m	3720	27
Pol3	Card or history	48	12-23 m	3720	27
Pol3	History	27	12-23 m	3720	27

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

Sudan - survey details

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