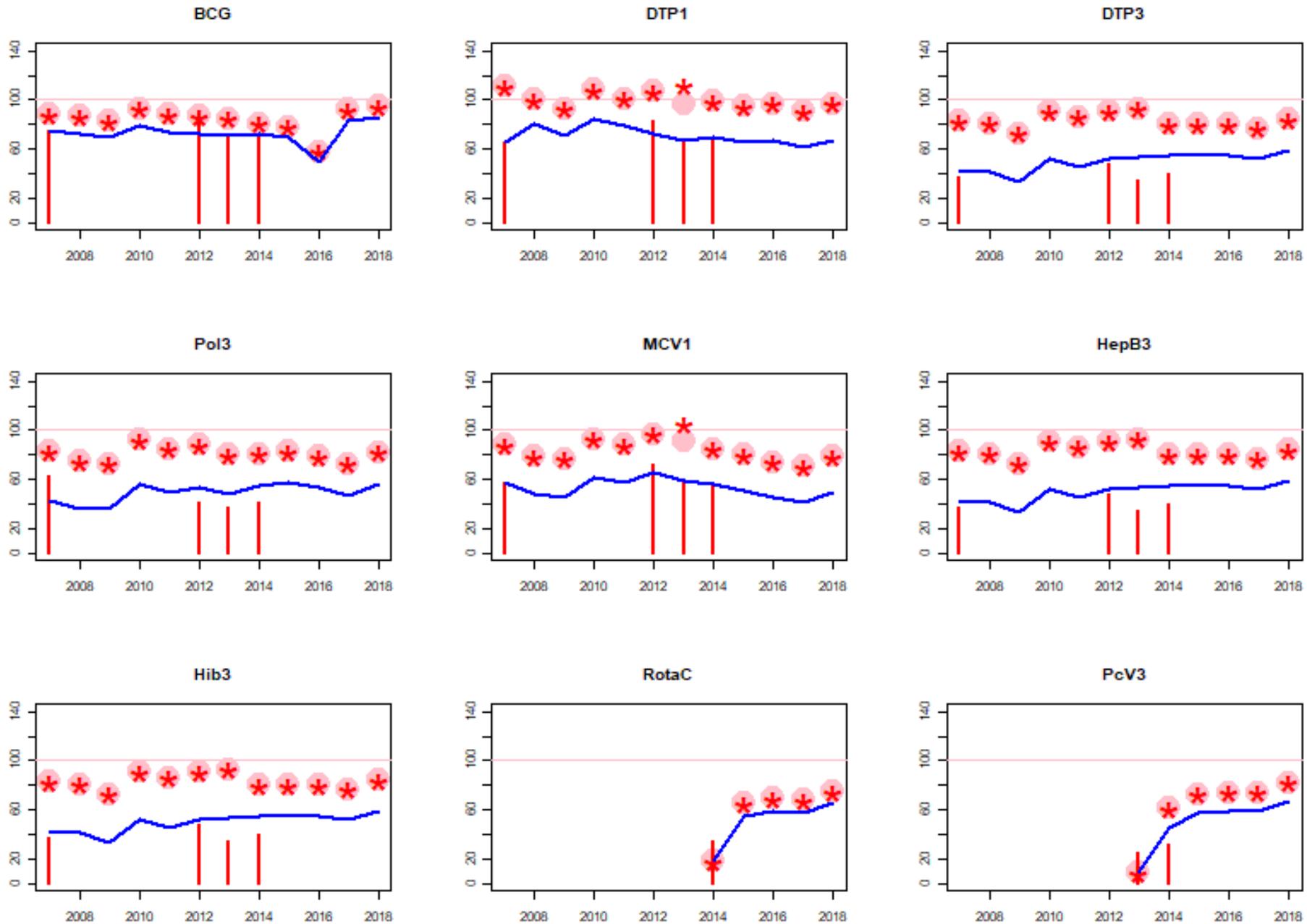


Angola: WHO and UNICEF estimates of immunization coverage: 2018 revision



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.

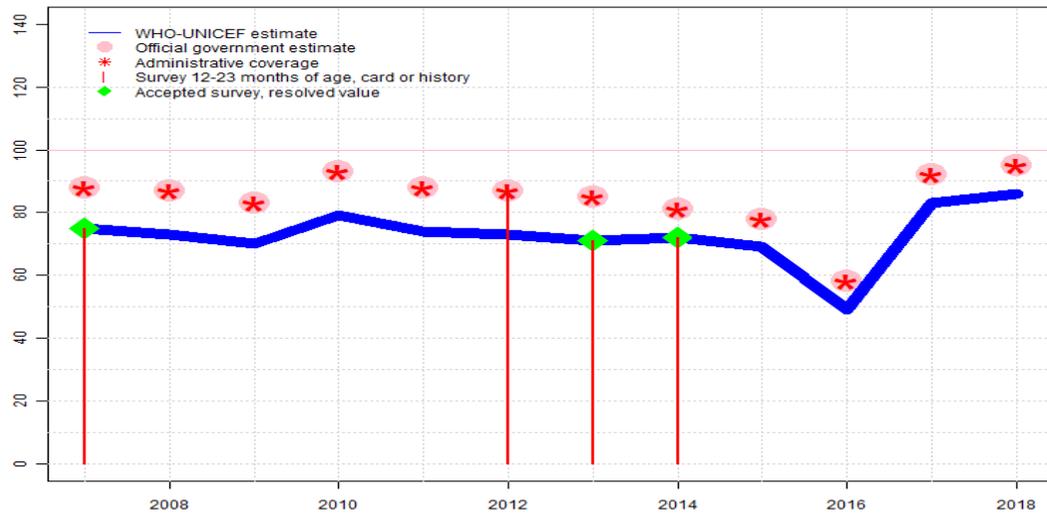
PcV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

AGO - BCG



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	75	73	70	79	74	73	71	72	69	49	83	86
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	88	87	83	93	88	87	85	81	78	58	92	95
Administrative	88	87	83	93	88	87	85	81	78	58	92	95
Survey	75	NA	NA	NA	NA	88	71	72	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: 2017 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:

- 2018: Reported data calibrated to 2014 levels. WHO and UNICEF recommend assessment of the routine monitoring system. Estimate challenged by: R-
- 2017: Reported data calibrated to 2014 levels. . Estimate challenged by: R-
- 2016: Reported data calibrated to 2014 levels. Revised target population based on projections from the 2014 census. Decline of twelve percent in 2016 compared with 2015. Programme reports BCG stock-out.. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2015: Reported data calibrated to 2014 levels. Programme reports one month national stock-out due to financial short-falls. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2014: Estimate of 72 percent assigned by working group. Estimate based on survey for consistency with other antigens. Decline in reported administrative coverage due in part to change in target population following release of 2014 census results. As such, data suggest coverage levels in prior years are overestimated. DQA conducted during 2014 suggests problems with recording and monitoring of vaccination services. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 71 percent based on 1 survey(s). Programme reports a one month stock-out at national level. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2012: Reported data calibrated to 2007 and 2013 levels. EPI Coverage Evaluation Survey, Angola 2013 results ignored by working group. Summary results from the survey available in PowerPoint format only. Full survey report not available. Estimate of 73 percent changed from previous revision value of 74 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2011: Reported data calibrated to 2007 and 2013 levels. Estimate of 74 percent changed from previous revision value of 76 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2010: Reported data calibrated to 2007 and 2013 levels. The increase in 2010 is the result of intensification of routine immunization through outreach, mobile team activities and increase in cold chain equipment supported by the private sector and international agencies in selected districts. Estimate of 79 percent changed from previous revision value of 82 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2009: Reported data calibrated to 2007 and 2013 levels. Estimate of 70 percent changed from previous revision value of 73 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2008: Reported data calibrated to 2007 and 2013 levels. Estimate of 73 percent changed from

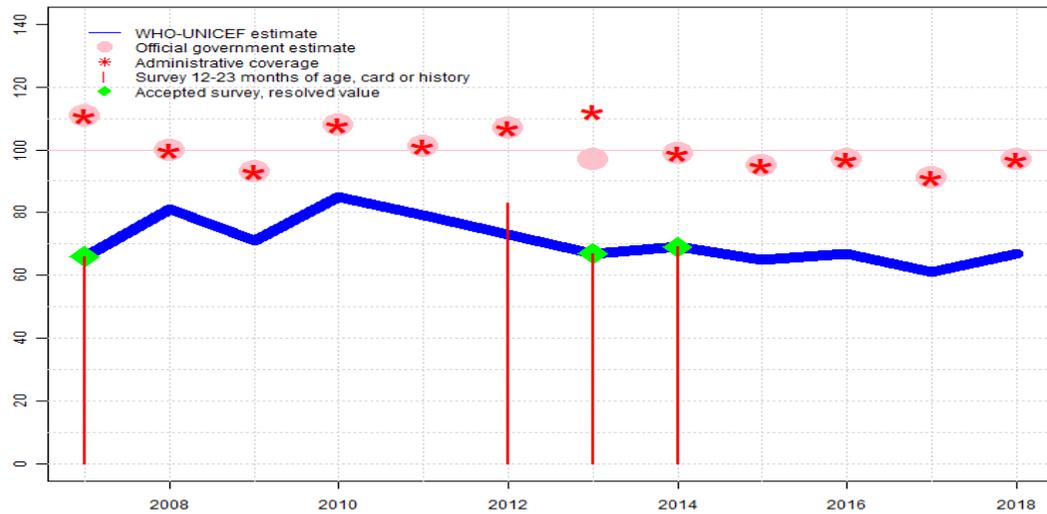
Angola - BCG

previous revision value of 78 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

2007: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 75 percent based on 1 survey(s). The increase in 2007 is the result of intensive national efforts targeting districts with high levels of unvaccinated children through increased fixed post, outreach, and mobile teams during the second semester of 2007. Estimate of 75 percent changed from previous revision value of 80 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

Angola - DTP1

AGO - DTP1



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	66	81	71	85	79	73	67	69	65	67	61	67
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	111	100	93	108	101	107	97	99	95	97	91	97
Administrative	111	100	93	108	101	107	112	99	95	97	91	97
Survey	66	NA	NA	NA	NA	83	67	69	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: 2017 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:

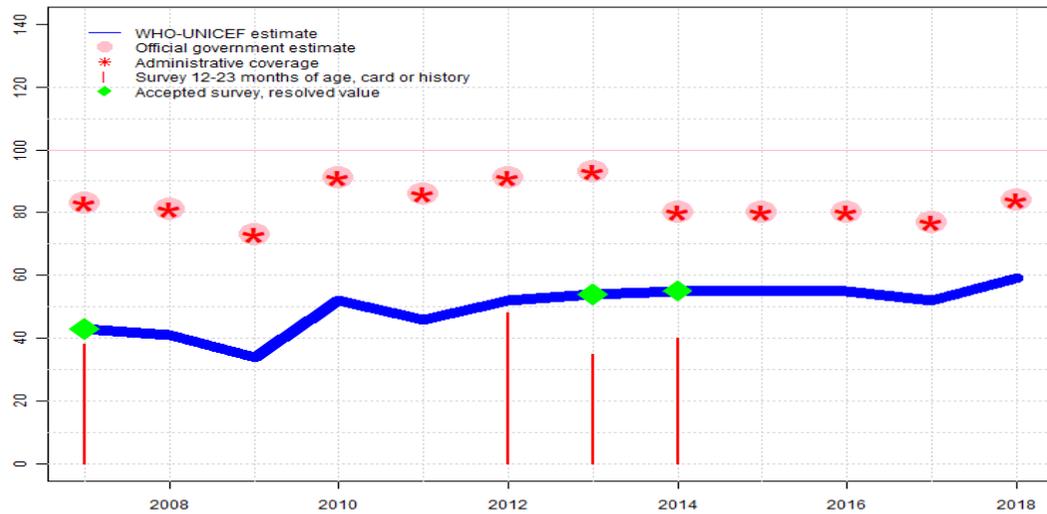
- 2018: Reported data calibrated to 2014 levels. WHO and UNICEF recommend assessment of the routine monitoring system. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2014 levels. Programme reports vaccine supply disruptions at district level in 2017. Estimate challenged by: D-R-
- 2016: Reported data calibrated to 2014 levels. Revised target population based on projections from the 2014 census. Decline of twelve percent in 2016 compared with 2015. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2014 levels. Programme reports one month national stock-out due to financial short-falls. Estimate challenged by: D-R-
- 2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 69 percent based on 1 survey(s). Decline in reported administrative coverage due in part to change in target population following release of 2014 census results. As such, data suggest coverage levels in prior years are overestimated. DQA conducted during 2014 suggests problems with recording and monitoring of vaccination services. Estimate challenged by: D-R-
- 2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 67 percent based on 1 survey(s). Estimate challenged by: D-R-
- 2012: Reported data calibrated to 2007 and 2013 levels. EPI Coverage Evaluation Survey, Angola 2013 results ignored by working group. Summary results from the survey available in PowerPoint format only. Full survey report not available. Reported data excluded because 107 percent greater than 100 percent. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2007 and 2013 levels. Reported data excluded because 101 percent greater than 100 percent. Estimate of 79 percent changed from previous revision value of 78 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2010: Reported data calibrated to 2007 and 2013 levels. The increase in 2010 is the result of intensification of routine immunization through outreach, mobile team activities and increase in cold chain equipment supported by the private sector and international agencies in selected districts. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2009: Reported data calibrated to 2007 and 2013 levels. Estimate of 71 percent changed from previous revision value of 72 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2008: Reported data calibrated to 2007 and 2013 levels. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2007: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 66 percent based on 1 survey(s). Reported data excluded because 111

Angola - DTP1

percent greater than 100 percent. Reported data excluded due to an increase from 66 percent to 111 percent with decrease 100 percent. The increase in 2007 is the result of intensive national efforts targeting districts with high levels of unvaccinated children through increased fixed post, outreach, and mobile teams during the second semester of 2007. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

Angola - DTP3

AGO - DTP3



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	43	41	34	52	46	52	54	55	55	55	52	59
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	83	81	73	91	86	91	93	80	80	80	77	84
Administrative	83	81	73	91	86	91	93	80	80	80	77	84
Survey	38	NA	NA	NA	NA	48	35	40	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: 2017 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:

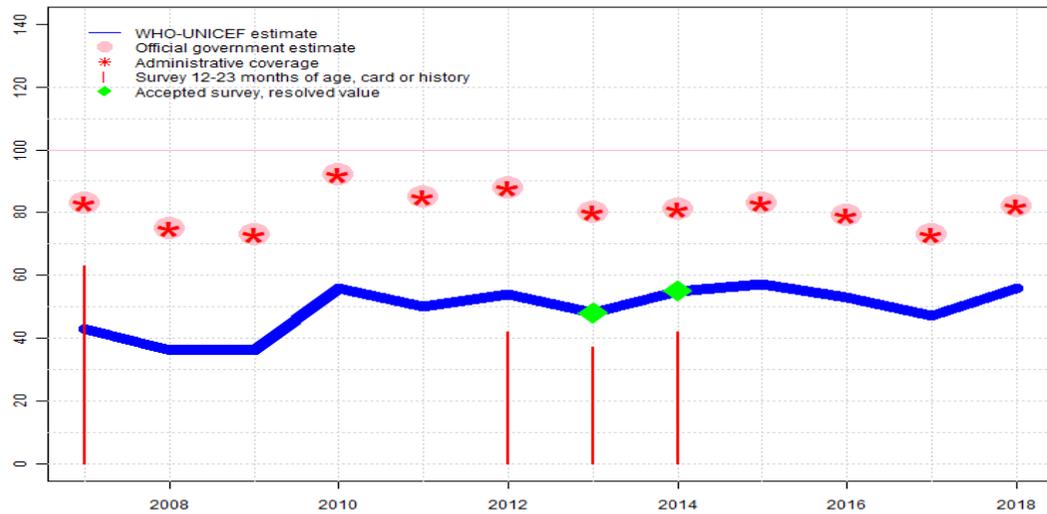
- 2018: Reported data calibrated to 2014 levels. WHO and UNICEF recommend assessment of the routine monitoring system. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2014 levels. Programme reports vaccine supply disruptions at district level in 2017. Estimate challenged by: D-R-
- 2016: Reported data calibrated to 2014 levels. Revised target population based on projections from the 2014 census. Decline of twelve percent in 2016 compared with 2015. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2014 levels. Programme reports one month national stock-out due to financial short-falls. Estimate challenged by: D-R-
- 2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 55 percent based on 1 survey(s). Angola Demographic and Health Survey 2015-2016 card or history results of 40 percent modified for recall bias to 55 percent based on 1st dose card or history coverage of 69 percent, 1st dose card only coverage of 43 percent and 3rd dose card only coverage of 34 percent. Decline in reported administrative coverage due in part to change in target population following release of 2014 census results. As such, data suggest coverage levels in prior years are overestimated. DQA conducted during 2014 suggests problems with recording and monitoring of vaccination services. Estimate challenged by: D-R-
- 2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 54 percent based on 1 survey(s). Angola Demographic and Health Survey 2015-2016 card or history results of 35 percent modified for recall bias to 54 percent based on 1st dose card or history coverage of 67 percent, 1st dose card only coverage of 32 percent and 3rd dose card only coverage of 26 percent. Estimate challenged by: D-R-
- 2012: Reported data calibrated to 2007 and 2013 levels. EPI Coverage Evaluation Survey, Angola 2013 results ignored by working group. Summary results from the survey available in PowerPoint format only. Full survey report not available. EPI Coverage Evaluation Survey, Angola 2013 card or history results of 48 percent modified for recall bias to 75 percent based on 1st dose card or history coverage of 83 percent, 1st dose card only coverage of 30 percent and 3rd dose card only coverage of 27 percent. Estimate of 52 percent changed from previous revision value of 54 percent. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2007 and 2013 levels. Estimate of 46 percent changed from previous revision value of 51 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2010: Reported data calibrated to 2007 and 2013 levels. The increase in 2010 is the result of intensification of routine immunization through outreach, mobile team activities and increase in cold chain equipment supported by the private sector and international agencies in selected districts. Estimate of 52 percent changed from previous revision value of 60 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

Angola - DTP3

- 2009: Reported data calibrated to 2007 and 2013 levels. Estimate of 34 percent changed from previous revision value of 44 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2008: Reported data calibrated to 2007 and 2013 levels. Estimate of 41 percent changed from previous revision value of 54 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2007: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 43 percent based on 1 survey(s). Angola Integrated Inquiry into Peoples Well-Being (IBEP) 2008-2009 card or history results of 38 percent modified for recall bias to 43 percent based on 1st dose card or history coverage of 66 percent, 1st dose card only coverage of 41 percent and 3rd dose card only coverage of 27 percent. The increase in 2007 is the result of intensive national efforts targeting districts with high levels of unvaccinated children through increased fixed post, outreach, and mobile teams during the second semester of 2007. Estimate of 43 percent changed from previous revision value of 58 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

Angola - Pol3

AGO - Pol3



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	43	36	36	56	50	54	48	55	57	53	47	56
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	83	75	73	92	85	88	80	81	83	79	73	82
Administrative	83	75	73	92	85	88	80	81	83	79	73	82
Survey	63	NA	NA	NA	NA	42	37	42	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: 2017 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:

- 2018: Reported data calibrated to 2014 levels. WHO and UNICEF recommend assessment of the routine monitoring system. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2014 levels. Programme reports vaccine supply disruptions at district level in 2017. Estimate challenged by: D-R-
- 2016: Reported data calibrated to 2014 levels. Revised target population based on projections from the 2014 census. Decline of twelve percent in 2016 compared with 2015. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2014 levels. Estimate challenged by: D-R-
- 2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 55 percent based on 1 survey(s). Angola Demographic and Health Survey 2015-2016 card or history results of 42 percent modified for recall bias to 55 percent based on 1st dose card or history coverage of 68 percent, 1st dose card only coverage of 43 percent and 3rd dose card only coverage of 35 percent. Estimate challenged by: D-R-
- 2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 48 percent based on 1 survey(s). Angola Demographic and Health Survey 2015-2016 card or history results of 37 percent modified for recall bias to 48 percent based on 1st dose card or history coverage of 61 percent, 1st dose card only coverage of 32 percent and 3rd dose card only coverage of 25 percent. Programme reports a two month stock-out at national level. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2012: Reported data calibrated to 2007 and 2013 levels. EPI Coverage Evaluation Survey, Angola 2013 results ignored by working group. Summary results from the survey available in PowerPoint format only. Full survey report not available. EPI Coverage Evaluation Survey, Angola 2013 card or history results of 42 percent modified for recall bias to 75 percent based on 1st dose card or history coverage of 83 percent, 1st dose card only coverage of 30 percent and 3rd dose card only coverage of 27 percent. Estimate of 54 percent changed from previous revision value of 58 percent. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2007 and 2013 levels. Estimate of 50 percent changed from previous revision value of 57 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2010: Reported data calibrated to 2007 and 2013 levels. The increase in 2010 is the result of intensification of routine immunization through outreach, mobile team activities and increase in cold chain equipment supported by the private sector and international agencies in selected districts. Estimate of 56 percent changed from previous revision value of 66 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2009: Reported data calibrated to 2007 and 2013 levels. Estimate of 36 percent changed from previous revision value of 49 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage

Angola - Pol3

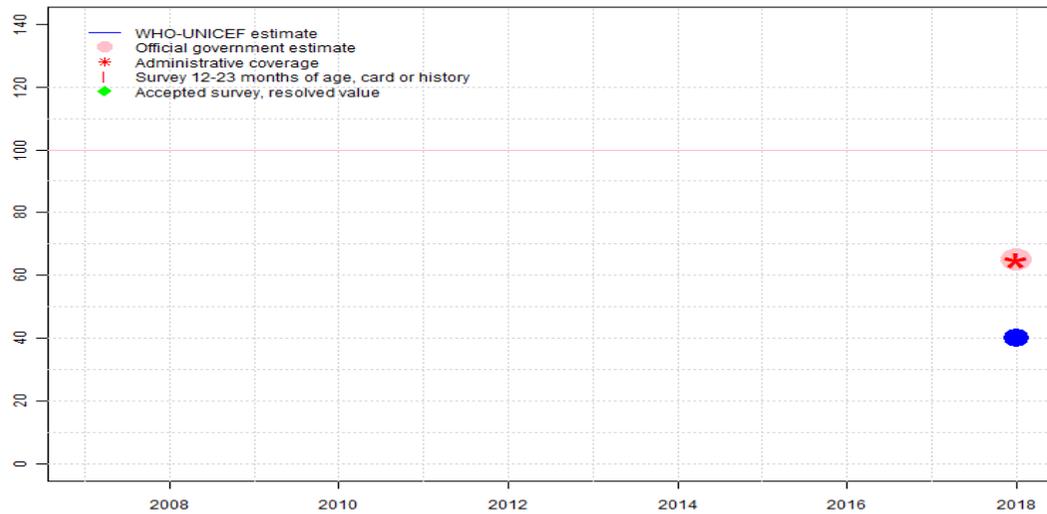
level from 2006 is not supported by an independent source.

2008: Reported data calibrated to 2007 and 2013 levels. Estimate of 36 percent changed from previous revision value of 53 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

2007: Estimate of 43 percent assigned by working group. Estimate based on estimated DTP3 coverage. Angola Integrated Inquiry into Peoples Well-Being (IBEP) 2008-2009 results ignored by working group. Survey results for polio vaccine likely reflect campaign doses. Angola Integrated Inquiry into Peoples Well-Being (IBEP) 2008-2009 card or history results of 63 percent modified for recall bias to 70 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 46 percent and 3rd dose card only coverage of 33 percent. The increase in 2007 is the result of intensive national efforts targeting districts with high levels of unvaccinated children through increased fixed post, outreach, and mobile teams during the second semester of 2007. Estimate of 43 percent changed from previous revision value of 63 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

Angola - IPV1

AGO - IPV1



Description:

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

2018: Estimate of 40 percent assigned by working group. Programme reports one month vaccine stock-out at national level. Vaccine introduced in December 2017 with reporting started in 2018. Estimate based on relationship between estimated and reported DTP3. WHO and UNICEF recommend assessment of the routine monitoring system. GoC=Assigned by working group. Consistency with other antigens.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	40										
Estimate GoC	NA	●										
Official	NA	65										
Administrative	NA	65										
Survey	NA											

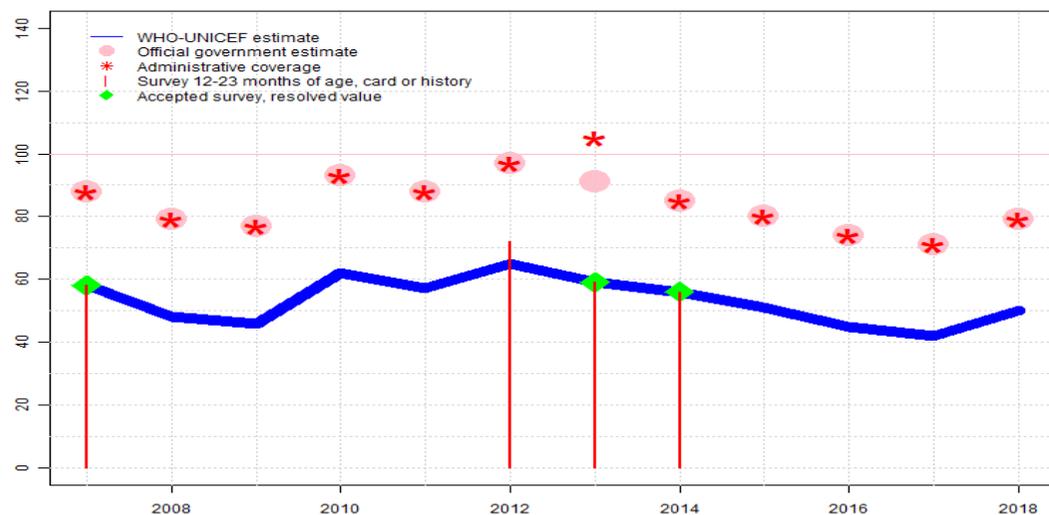
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2017 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.

Angola - MCV1

AGO - MCV1



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	58	48	46	62	57	65	59	56	51	45	42	50
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	88	79	77	93	88	97	91	85	80	74	71	79
Administrative	88	79	77	93	88	97	105	85	80	74	71	79
Survey	58	NA	NA	NA	NA	72	59	56	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: 2017 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:

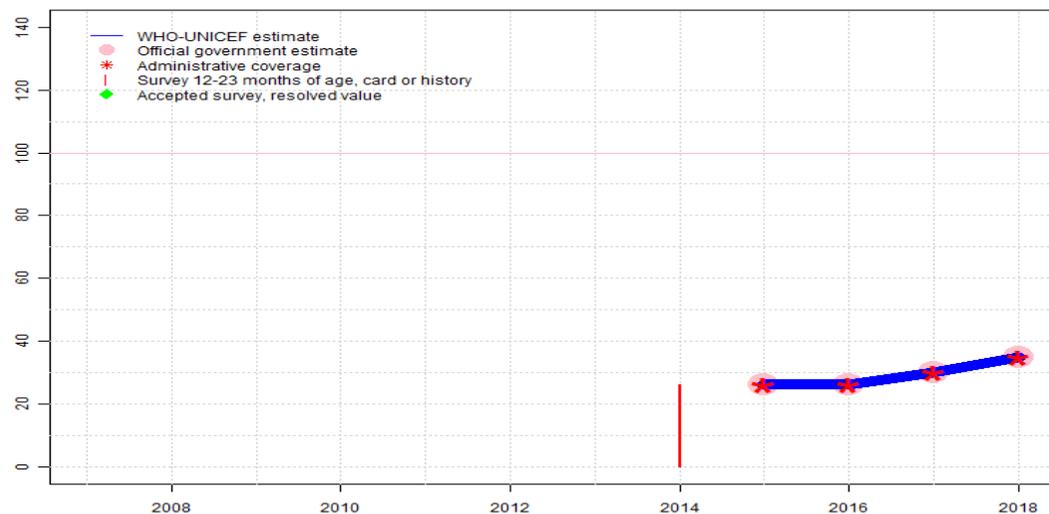
- 2018: Reported data calibrated to 2014 levels. WHO and UNICEF recommend assessment of the routine monitoring system. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2014 levels. Programme reports vaccine supply disruptions at district level in 2017. Estimate challenged by: D-R-
- 2016: Reported data calibrated to 2014 levels. Revised target population based on projections from the 2014 census. Decline of twelve percent in 2016 compared with 2015. Estimate challenged by: D-R-S-
- 2015: Reported data calibrated to 2014 levels. Estimate challenged by: D-R-
- 2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 56 percent based on 1 survey(s). Decline in reported administrative coverage due in part to change in target population following release of 2014 census results. As such, data suggest coverage levels in prior years are overestimated. DQA conducted during 2014 suggests problems with recording and monitoring of vaccination services. Estimate challenged by: D-R-
- 2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 59 percent based on 1 survey(s). Programme reports a one month stock-out at national level. Estimate challenged by: D-R-
- 2012: Reported data calibrated to 2007 and 2013 levels. EPI Coverage Evaluation Survey, Angola 2013 results ignored by working group. Summary results from the survey available in PowerPoint format only. Full survey report not available. Estimate of 65 percent changed from previous revision value of 67 percent. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2007 and 2013 levels. Estimate of 57 percent changed from previous revision value of 60 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2010: Reported data calibrated to 2007 and 2013 levels. The increase in 2010 is the result of intensification of routine immunization through outreach, mobile team activities and increase in cold chain equipment supported by the private sector and international agencies in selected districts. Estimate of 62 percent changed from previous revision value of 67 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2009: Reported data calibrated to 2007 and 2013 levels. Estimate of 46 percent changed from previous revision value of 53 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2008: Reported data calibrated to 2007 and 2013 levels. Estimate of 48 percent changed from previous revision value of 57 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2007: Survey evidence does not support reported data. Estimate based on survey results. Survey

Angola - MCV1

evidence of 58 percent based on 1 survey(s). The increase in 2007 is the result of intensive national efforts targeting districts with high levels of unvaccinated children through increased fixed post, outreach, and mobile teams during the second semester of 2007. Estimate of 58 percent changed from previous revision value of 68 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

Angola - MCV2

AGO - MCV2



Description:

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

2018: Estimate based on coverage reported by national government. WHO and UNICEF recommend assessment of the routine monitoring system. GoC=Assigned by working group. Consistency with other antigens.

2017: Estimate based on coverage reported by national government. Reported data exceptionally accepted. GoC=Assigned by working group. Consistency with other antigens.

2016: Estimate based on coverage reported by national government. Revised target population based on projections from the 2014 census. Decline of twelve percent in 2016 compared with 2015. Reported data exceptionally accepted. GoC=Assigned by working group. Consistency with other antigens.

2015: Estimate based on coverage reported by national government. Second dose of measles containing vaccine introduced in 2014. Reporting began in 2015. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	26	26	30	35							
Estimate GoC	NA	●	●	●	●							
Official	NA	26	26	30	35							
Administrative	NA	26	26	30	35							
Survey	NA	26	NA	NA	NA	NA						

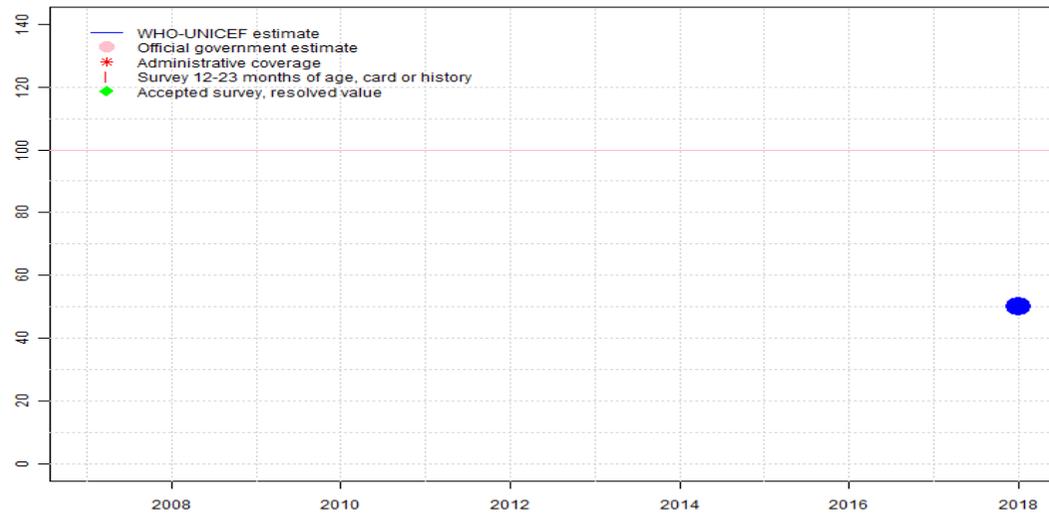
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2017 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.

Angola - RCV1

AGO - RCV1



Description:

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

2018: Estimate based on estimated MCV1. WHO and UNICEF recommend assessment of the routine monitoring system. Rubella containing vaccine introduced during 2018 as MR combination. Estimate challenged by: D-R-

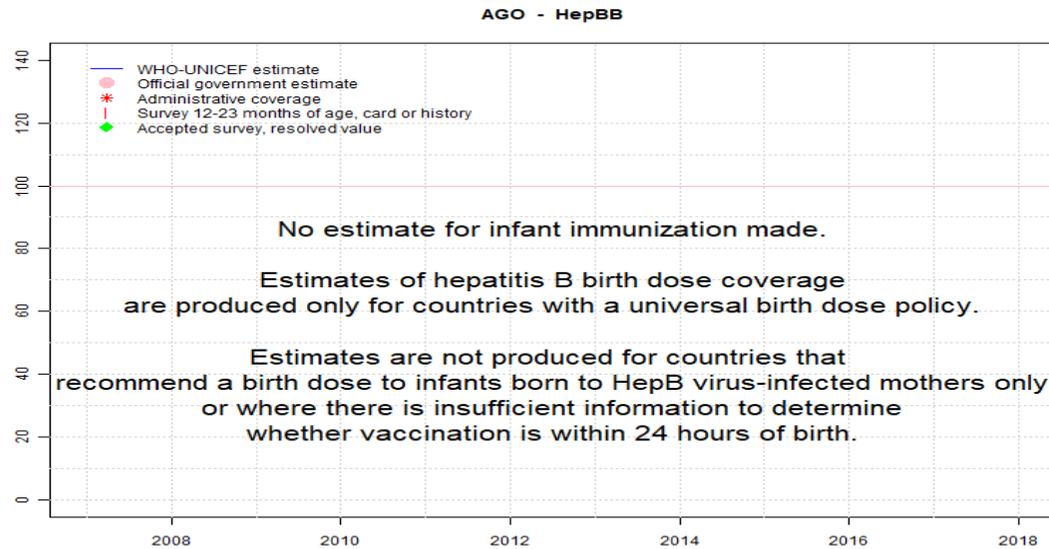
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	50										
Estimate GoC	NA	●										
Official	NA											
Administrative	NA											
Survey	NA											

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: 2017 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.

Angola - HepBB



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA											
Estimate GoC	NA											
Official	NA											
Administrative	NA											
Survey	NA											

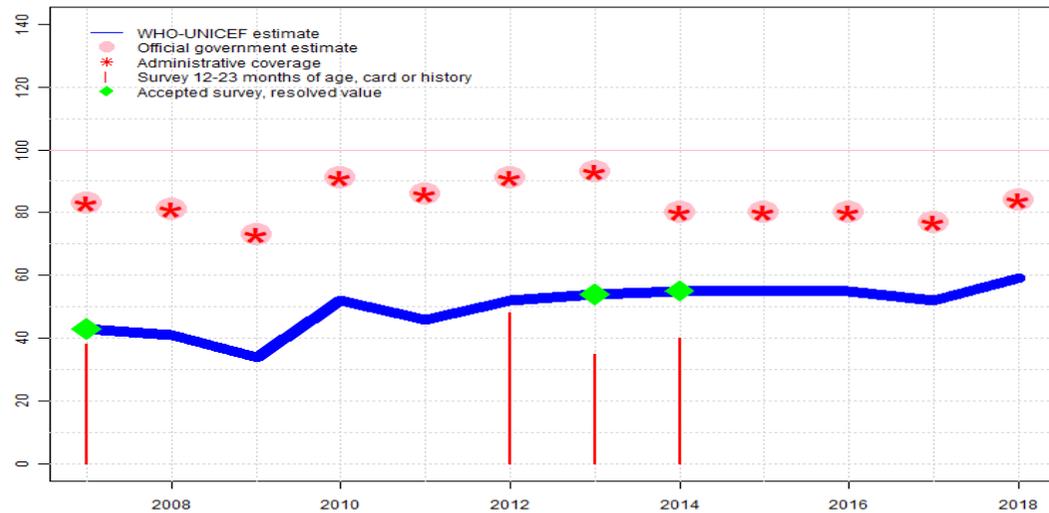
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2017 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.

Angola - HepB3

AGO - HepB3



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	43	41	34	52	46	52	54	55	55	55	52	59
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	83	81	73	91	86	91	93	80	80	80	77	84
Administrative	83	81	73	91	86	91	93	80	80	80	77	84
Survey	38	NA	NA	NA	NA	48	35	40	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: 2017 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:

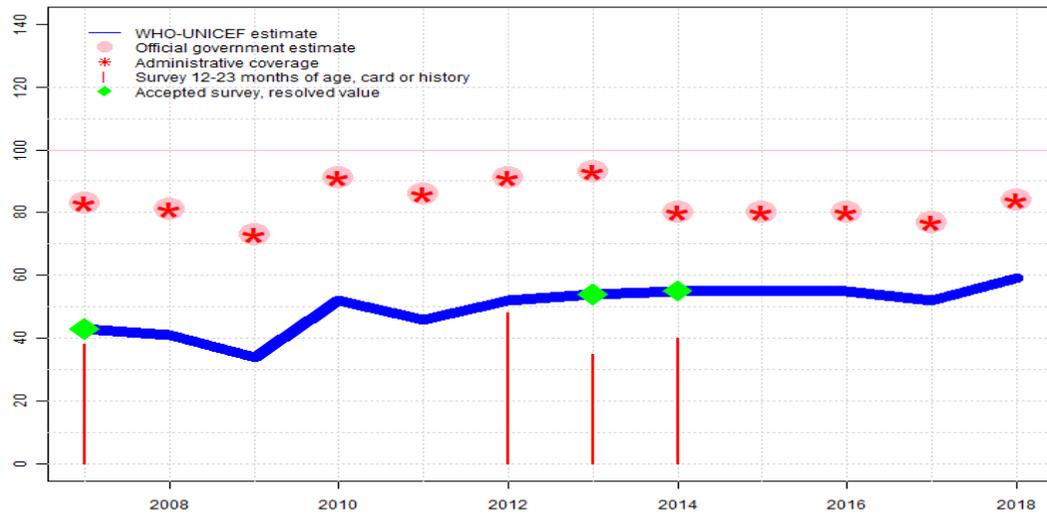
- 2018: Reported data calibrated to 2014 levels. WHO and UNICEF recommend assessment of the routine monitoring system. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2014 levels. Programme reports vaccine supply disruptions at district level in 2017. Estimate challenged by: D-R-
- 2016: Reported data calibrated to 2014 levels. Revised target population based on projections from the 2014 census. Decline of twelve percent in 2016 compared with 2015. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2014 levels. Programme reports one month national stock-out due to financial short-falls. Estimate challenged by: D-R-
- 2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 55 percent based on 1 survey(s). Angola Demographic and Health Survey 2015-2016 card or history results of 40 percent modified for recall bias to 55 percent based on 1st dose card or history coverage of 69 percent, 1st dose card only coverage of 43 percent and 3rd dose card only coverage of 34 percent. Decline in reported administrative coverage due in part to change in target population following release of 2014 census results. As such, data suggest coverage levels in prior years are overestimated. DQA conducted during 2014 suggests problems with recording and monitoring of vaccination services. Estimate challenged by: D-R-
- 2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 54 percent based on 1 survey(s). Angola Demographic and Health Survey 2015-2016 card or history results of 35 percent modified for recall bias to 54 percent based on 1st dose card or history coverage of 67 percent, 1st dose card only coverage of 32 percent and 3rd dose card only coverage of 26 percent. Estimate challenged by: D-R-
- 2012: Reported data calibrated to 2007 and 2013 levels. EPI Coverage Evaluation Survey, Angola 2013 results ignored by working group. Summary results from the survey available in PowerPoint format only. Full survey report not available. EPI Coverage Evaluation Survey, Angola 2013 card or history results of 48 percent modified for recall bias to 75 percent based on 1st dose card or history coverage of 83 percent, 1st dose card only coverage of 30 percent and 3rd dose card only coverage of 27 percent. Estimate of 52 percent changed from previous revision value of 55 percent. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2007 and 2013 levels. Estimate of 46 percent changed from previous revision value of 51 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2010: Reported data calibrated to 2007 and 2013 levels. The increase in 2010 is the result of intensification of routine immunization through outreach, mobile team activities and increase in cold chain equipment supported by the private sector and international agencies in selected districts. Estimate of 52 percent changed from previous revision value of 59 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

Angola - HepB3

- 2009: Reported data calibrated to 2007 and 2013 levels. Estimate of 34 percent changed from previous revision value of 44 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2008: Reported data calibrated to 2007 and 2013 levels. Estimate of 41 percent changed from previous revision value of 53 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2007: Estimate of 43 percent assigned by working group. Estimate based on estimated DTP3 coverage. Angola Integrated Inquiry into Peoples Well-Being (IBEP) 2008-2009 card or history results of 38 percent modified for recall bias to 43 percent based on 1st dose card or history coverage of 66 percent, 1st dose card only coverage of 41 percent and 3rd dose card only coverage of 27 percent. The increase in 2007 is the result of intensive national efforts targeting districts with high levels of unvaccinated children through increased fixed post, outreach, and mobile teams during the second semester of 2007. HepB vaccine introduced in 2006. Reporting started in 2007. Vaccine presentation is DTP-HepB-Hib. Estimate of 43 percent changed from previous revision value of 58 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

Angola - Hib3

AGO - Hib3



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	43	41	34	52	46	52	54	55	55	55	52	59
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	83	81	73	91	86	91	93	80	80	80	77	84
Administrative	83	81	73	91	86	91	93	80	80	80	77	84
Survey	38	NA	NA	NA	NA	48	35	40	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: 2017 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:

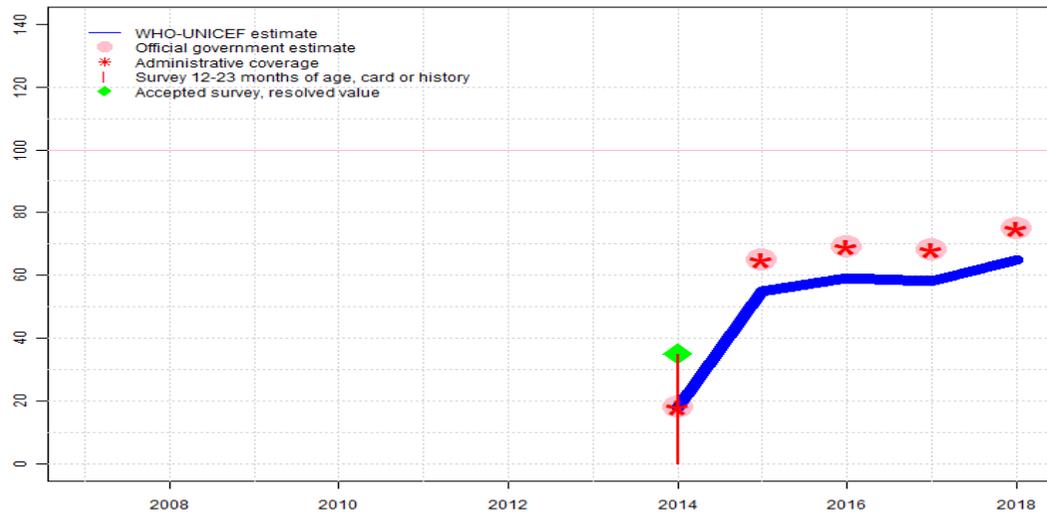
- 2018: Reported data calibrated to 2014 levels. WHO and UNICEF recommend assessment of the routine monitoring system. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2014 levels. Programme reports vaccine supply disruptions at district level in 2017. Estimate challenged by: D-R-
- 2016: Reported data calibrated to 2014 levels. Revised target population based on projections from the 2014 census. Decline of twelve percent in 2016 compared with 2015. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2014 levels. Programme reports one month national stock-out due to financial short-falls. Estimate challenged by: D-R-
- 2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 55 percent based on 1 survey(s). Angola Demographic and Health Survey 2015-2016 card or history results of 40 percent modified for recall bias to 55 percent based on 1st dose card or history coverage of 69 percent, 1st dose card only coverage of 43 percent and 3rd dose card only coverage of 34 percent. Decline in reported administrative coverage due in part to change in target population following release of 2014 census results. As such, data suggest coverage levels in prior years are overestimated. DQA conducted during 2014 suggests problems with recording and monitoring of vaccination services. Estimate challenged by: D-R-
- 2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 54 percent based on 1 survey(s). Angola Demographic and Health Survey 2015-2016 card or history results of 35 percent modified for recall bias to 54 percent based on 1st dose card or history coverage of 67 percent, 1st dose card only coverage of 32 percent and 3rd dose card only coverage of 26 percent. Estimate challenged by: D-R-
- 2012: Reported data calibrated to 2007 and 2013 levels. EPI Coverage Evaluation Survey, Angola 2013 results ignored by working group. Summary results from the survey available in PowerPoint format only. Full survey report not available. EPI Coverage Evaluation Survey, Angola 2013 card or history results of 48 percent modified for recall bias to 75 percent based on 1st dose card or history coverage of 83 percent, 1st dose card only coverage of 30 percent and 3rd dose card only coverage of 27 percent. Estimate of 52 percent changed from previous revision value of 55 percent. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2007 and 2013 levels. Estimate of 46 percent changed from previous revision value of 51 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2010: Reported data calibrated to 2007 and 2013 levels. The increase in 2010 is the result of intensification of routine immunization through outreach, mobile team activities and increase in cold chain equipment supported by the private sector and international agencies in selected districts. Estimate of 52 percent changed from previous revision value of 59 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

Angola - Hib3

- 2009: Reported data calibrated to 2007 and 2013 levels. Estimate of 34 percent changed from previous revision value of 44 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2008: Reported data calibrated to 2007 and 2013 levels. Estimate of 41 percent changed from previous revision value of 53 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2007: Estimate of 43 percent assigned by working group. Estimate based on estimated DTP3 coverage. Angola Integrated Inquiry into Peoples Well-Being (IBEP) 2008-2009 card or history results of 38 percent modified for recall bias to 43 percent based on 1st dose card or history coverage of 66 percent, 1st dose card only coverage of 41 percent and 3rd dose card only coverage of 27 percent. The increase in 2007 is the result of intensive national efforts targeting districts with high levels of unvaccinated children through increased fixed post, outreach, and mobile teams during the second semester of 2007. Hib vaccine introduced in 2006. Reporting started in 2007. Vaccine presentation is DTP-HepB-Hib. Estimate of 43 percent changed from previous revision value of 58 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

Angola - RotaC

AGO - RotaC



Description:

2018: Reported data calibrated to 2015 levels. WHO and UNICEF recommend assessment of the routine monitoring system. Estimate challenged by: R-

2017: Reported data calibrated to 2015 levels. Estimate challenged by: R-

2016: Reported data calibrated to 2015 levels. Revised target population based on projections from the 2014 census. Decline of twelve percent in 2016 compared with 2015. Programme reports two month national level vaccine stock-out. Estimate challenged by: R-S-

2015: Estimate of 55 percent assigned by working group. Estimate is based on estimated DTP3 coverage level. Estimate challenged by: R-S-

2014: Rotavirus vaccine introduced during April 2014. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	18	55	59	58	65						
Estimate GoC	NA	•	•	•	•	•						
Official	NA	18	65	69	68	75						
Administrative	NA	18	65	69	68	75						
Survey	NA	35	NA	NA	NA	NA						

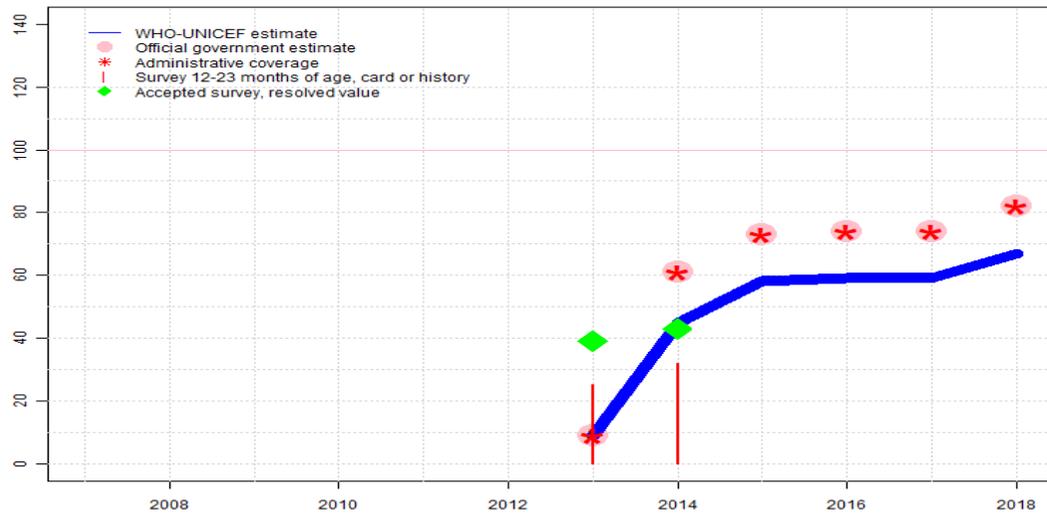
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2017 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.

Angola - PcV3

AGO - PcV3



Description:

- 2018: Reported data calibrated to 2015 levels. WHO and UNICEF recommend assessment of the routine monitoring system. Estimate challenged by: R-
- 2017: Reported data calibrated to 2015 levels. Programme reports vaccine supply disruptions at district level in 2017. Estimate challenged by: R-
- 2016: Reported data calibrated to 2015 levels. Revised target population based on projections from the 2014 census. Decline of twelve percent in 2016 compared with 2015. Programme reports PCV stock-out for 0.5 month. Estimate challenged by: R-S-
- 2015: Estimate of 58 percent assigned by working group. Estimate is based on estimated DTP3 coverage level. Estimate challenged by: D-R-S-
- 2014: Estimate of 45 percent assigned by working group. Estimate is based on estimated DTP3 coverage level. Angola Demographic and Health Survey 2015-2016 card or history results of 32 percent modified for recall bias to 43 percent based on 1st dose card or history coverage of 62 percent, 1st dose card only coverage of 40 percent and 3rd dose card only coverage of 28 percent. Estimate challenged by: D-R-
- 2013: Pneumococcal conjugate vaccine introduced in June 2013. Angola Demographic and Health Survey 2015-2016 card or history results of 25 percent modified for recall bias to 39 percent based on 1st dose card or history coverage of 55 percent, 1st dose card only coverage of 27 percent and 3rd dose card only coverage of 19 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	NA	NA	NA	NA	NA	9	45	58	59	59	67
Estimate GoC	NA	NA	NA	NA	NA	NA	•	•	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	9	61	73	74	74	82
Administrative	NA	NA	NA	NA	NA	NA	9	61	73	74	74	82
Survey	NA	NA	NA	NA	NA	NA	25	32	NA	NA	NA	NA

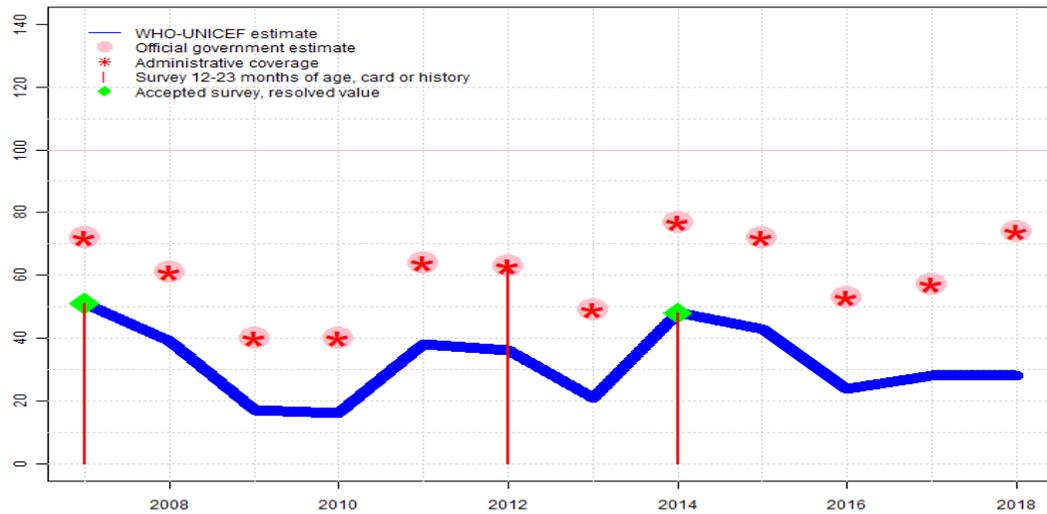
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2017 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.

Angola - YFV

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	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	51	39	17	16	38	36	21	48	43	24	28	28
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	72	61	40	40	64	63	49	77	72	53	57	74
Administrative	72	61	40	40	64	63	49	77	72	53	57	74
Survey	51	NA	NA	NA	NA	64	NA	48	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: 2017 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:

- 2018: Reported data calibrated to 2014 levels. Reported data excluded due to sudden change in coverage from 57 level to 74 percent. WHO and UNICEF recommend assessment of the routine monitoring system. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2017: Reported data calibrated to 2014 levels. Programme reports vaccine supply disruptions at district level in 2017. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2016: Reported data calibrated to 2014 levels. Revised target population based on projections from the 2014 census. Decline of twelve percent in 2016 compared with 2015. Programme reports Yellow Fever vaccine stock-out for 12 months in 2016. Estimates exceptionally based on reported data for the time period shown in the graph.. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2015: Reported data calibrated to 2014 levels. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 48 percent based on 1 survey(s). Recovery from 2013 stock-out. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2013: Reported data calibrated to 2007 and 2014 levels. Decline in coverage due in part to a national stock-out of three months. Estimate of 21 percent changed from previous revision value of 20 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2012: Reported data calibrated to 2007 and 2014 levels. EPI Coverage Evaluation Survey, Angola 2013 results ignored by working group. Summary results from the survey available in PowerPoint format only. Full survey report not available. Estimate of 36 percent changed from previous revision value of 34 percent. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
- 2011: Reported data calibrated to 2007 and 2014 levels. Decline result of vaccine stock out in 138 districts. Estimate of 38 percent changed from previous revision value of 35 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2010: Reported data calibrated to 2007 and 2014 levels. Programme reports a three months stock out in 150 of 164 districts. The increase in 2010 is the result of intensification of routine immunization through outreach, mobile team activities and increase in cold chain equipment supported by the private sector and international agencies in selected districts. Estimate of 16 percent changed from previous revision value of 11 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.
- 2009: Reported data calibrated to 2007 and 2014 levels. Estimate of 17 percent changed from

Angola - YFV

previous revision value of 11 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

2008: Reported data calibrated to 2007 and 2014 levels. Estimate of 39 percent changed from previous revision value of 32 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

2007: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 51 percent based on 1 survey(s). The increase in 2007 is the result of intensive national efforts targeting districts with high levels of unvaccinated children through increased fixed post, outreach, and mobile teams during the second semester of 2007. Reported data accepted for other antigens. Estimate of 51 percent changed from previous revision value of 43 percent. GoC=Assigned by working group. In spite of reported coverage at similar levels between 2007-2011, the dramatic increase in coverage level from 2006 is not supported by an independent source.

Angola - survey details

2014 Angola Demographic and Health Survey 2015-2016

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	70.4	12-23 m	2595	47
BCG	Card	42.1	12-23 m	1228	47
BCG	Card or History	71.9	12-23 m	2595	47
BCG	History	29.9	12-23 m	1366	47
DTP1	C or H <12 months	67.1	12-23 m	2595	47
DTP1	Card	42.9	12-23 m	1228	47
DTP1	Card or History	68.8	12-23 m	2595	47
DTP1	History	25.9	12-23 m	1366	47
DTP3	C or H <12 months	38.1	12-23 m	2595	47
DTP3	Card	33.8	12-23 m	1228	47
DTP3	Card or History	39.6	12-23 m	2595	47
DTP3	History	5.8	12-23 m	1366	47
HepB1	C or H <12 months	67.1	12-23 m	2595	47
HepB1	Card	42.9	12-23 m	1228	47
HepB1	Card or History	68.8	12-23 m	2595	47
HepB1	History	25.9	12-23 m	1366	47
HepB3	C or H <12 months	38.1	12-23 m	2595	47
HepB3	Card	33.8	12-23 m	1228	47
HepB3	Card or History	39.6	12-23 m	2595	47
HepB3	History	5.8	12-23 m	1366	47
Hib1	C or H <12 months	67.1	12-23 m	2595	47
Hib1	Card	42.9	12-23 m	1228	47
Hib1	Card or History	68.8	12-23 m	2595	47
Hib1	History	25.9	12-23 m	1366	47
Hib3	C or H <12 months	38.1	12-23 m	2595	47
Hib3	Card	33.8	12-23 m	1228	47
Hib3	Card or History	39.6	12-23 m	2595	47
Hib3	History	5.8	12-23 m	1366	47
MCV1	C or H <12 months	51.2	12-23 m	2595	47
MCV1	Card	31.9	12-23 m	1228	47
MCV1	Card or History	56.1	12-23 m	2595	47
MCV1	History	24.2	12-23 m	1366	47
MCV2	C or H <12 months	25.2	24-35 m	2495	47
MCV2	Card	14.9	24-35 m	862	47
MCV2	Card or History	26.4	24-35 m	2495	47
MCV2	History	11.5	24-35 m	1633	47
PCV1	C or H <12 months	60.6	12-23 m	2595	47

PCV1	Card	39.8	12-23 m	1228	47
PCV1	Card or History	62	12-23 m	2595	47
PCV1	History	22.2	12-23 m	1366	47
PCV3	C or H <12 months	31	12-23 m	2595	47
PCV3	Card	28.2	12-23 m	1228	47
PCV3	Card or History	32.5	12-23 m	2595	47
PCV3	History	4.3	12-23 m	1366	47
Pol1	C or H <12 months	65.8	12-23 m	2595	47
Pol1	Card	43.4	12-23 m	1228	47
Pol1	Card or History	67.6	12-23 m	2595	47
Pol1	History	24.2	12-23 m	1366	47
Pol3	C or H <12 months	39.9	12-23 m	2595	47
Pol3	Card	34.6	12-23 m	1228	47
Pol3	Card or History	41.8	12-23 m	2595	47
Pol3	History	7.2	12-23 m	1366	47
RotaC	C or H <12 months	34.3	12-23 m	2595	47
RotaC	Card	24.8	12-23 m	1228	47
RotaC	Card or History	34.9	12-23 m	2595	47
RotaC	History	10.1	12-23 m	1366	47
YFV	Card or History	48.5	12-23 m	2595	47

2013 Angola Demographic and Health Survey 2015-2016

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	65.9	24-35 m	2495	47
BCG	Card	31.1	24-35 m	862	47
BCG	Card or History	70.6	24-35 m	2495	47
BCG	History	39.5	24-35 m	1633	47
DTP1	C or H <12 months	62.1	24-35 m	2495	47
DTP1	Card	32.2	24-35 m	862	47
DTP1	Card or History	66.7	24-35 m	2495	47
DTP1	History	34.5	24-35 m	1633	47
DTP3	C or H <12 months	31.9	24-35 m	2495	47
DTP3	Card	25.5	24-35 m	862	47
DTP3	Card or History	34.9	24-35 m	2495	47
DTP3	History	9.3	24-35 m	1633	47
HepB1	C or H <12 months	62.1	24-35 m	2495	47
HepB1	Card	32.2	24-35 m	862	47
HepB1	Card or History	66.7	24-35 m	2495	47

Angola - survey details

HepB1	History	34.5	24-35 m	1633	47
HepB3	C or H <12 months	31.9	24-35 m	2495	47
HepB3	Card	25.5	24-35 m	862	47
HepB3	Card or History	34.9	24-35 m	2495	47
HepB3	History	9.3	24-35 m	1633	47
Hib1	C or H <12 months	62.1	24-35 m	2495	47
Hib1	Card	32.2	24-35 m	862	47
Hib1	Card or History	66.7	24-35 m	2495	47
Hib1	History	34.5	24-35 m	1633	47
Hib3	C or H <12 months	31.9	24-35 m	2495	47
Hib3	Card	25.5	24-35 m	862	47
Hib3	Card or History	34.9	24-35 m	2495	47
Hib3	History	9.3	24-35 m	1633	47
MCV1	C or H <12 months	49.1	24-35 m	2495	47
MCV1	Card	25.6	24-35 m	862	47
MCV1	Card or History	58.7	24-35 m	2495	47
MCV1	History	33.1	24-35 m	1633	47
PCV1	C or H <12 months	51	24-35 m	2495	47
PCV1	Card	26.6	24-35 m	862	47
PCV1	Card or History	55.4	24-35 m	2495	47
PCV1	History	28.8	24-35 m	1633	47
PCV3	C or H <12 months	22.5	24-35 m	2495	47
PCV3	Card	18.7	24-35 m	862	47
PCV3	Card or History	25	24-35 m	2495	47
PCV3	History	6.3	24-35 m	1633	47
Pol1	C or H <12 months	56.7	24-35 m	2495	47
Pol1	Card	32.5	24-35 m	862	47
Pol1	Card or History	61.3	24-35 m	2495	47
Pol1	History	28.8	24-35 m	1633	47
Pol3	C or H <12 months	33.5	24-35 m	2495	47
Pol3	Card	25.2	24-35 m	862	47
Pol3	Card or History	37	24-35 m	2495	47
Pol3	History	11.8	24-35 m	1633	47

2012 Inquérito de Cobertura Vacinal das Crianças de 12 a 23 meses de Idade, Angola 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	32	12-23 m	3764	33

BCG	Card or History	88	12-23 m	3764	33
DTP1	Card	30	12-23 m	3764	33
DTP1	Card or History	83	12-23 m	3764	33
DTP3	Card	27	12-23 m	3764	33
DTP3	Card or History	48	12-23 m	3764	33
HepB1	Card	30	12-23 m	3764	33
HepB1	Card or History	83	12-23 m	3764	33
HepB3	Card	27	12-23 m	3764	33
HepB3	Card or History	48	12-23 m	3764	33
Hib1	Card	30	12-23 m	3764	33
Hib1	Card or History	83	12-23 m	3764	33
Hib3	Card	27	12-23 m	3764	33
Hib3	Card or History	48	12-23 m	3764	33
MCV1	Card	26	12-23 m	3764	33
MCV1	Card or History	72	12-23 m	3764	33
Pol1	Card	30	12-23 m	3764	33
Pol1	Card or History	83	12-23 m	3764	33
Pol3	Card	27	12-23 m	3764	33
Pol3	Card or History	42	12-23 m	3764	33
YFV	Card	22	12-23 m	3764	33
YFV	Card or History	64	12-23 m	3764	33

2007 Angola Inquérito Integrado sobre o Bem-Estar da População (IBEP) 2008-2009

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	29.6	12-23 m	880	57
BCG	Card	41.3	12-23 m	2132	57
BCG	Card or History	74.6	12-23 m	2132	57
BCG	History	33.3	12-23 m	2132	57
DTP1	Card	40.6	12-23 m	2132	57
DTP1	Card or History	66.5	12-23 m	2132	57
DTP1	History	25.9	12-23 m	2132	57
DTP3	C or H <12 months	35	12-23 m	880	57
DTP3	Card	27.1	12-23 m	2132	57
DTP3	Card or History	37.6	12-23 m	2132	57
DTP3	History	10.5	12-23 m	2132	57
HepB1	Card	40.6	12-23 m	2132	57
HepB1	Card or History	66.5	12-23 m	2132	57

Angola - survey details

HepB1	History	25.9	12-23 m	2132	57						
HepB3	C or H <12 months	35	12-23 m	880	57	Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
HepB3	Card	27.1	12-23 m	2132	57	BCG	Card	32.6	12-23 m	1102	34
HepB3	Card or History	37.6	12-23 m	2132	57	BCG	Card <12 months	63	12-23 m	1102	34
HepB3	History	10.5	12-23 m	2132	57	BCG	Card or History	68.8	12-23 m	1102	34
Hib1	Card	40.6	12-23 m	2132	57	BCG	History	36.2	12-23 m	1102	34
Hib1	Card or History	66.5	12-23 m	2132	57	DTP1	Card	29.1	12-23 m	1102	34
Hib1	History	25.9	12-23 m	2132	57	DTP1	Card <12 months	49.8	12-23 m	1102	34
Hib3	C or H <12 months	35	12-23 m	880	57	DTP1	Card or History	55.8	12-23 m	1102	34
Hib3	Card	27.1	12-23 m	2132	57	DTP1	History	26.7	12-23 m	1102	34
Hib3	Card or History	37.6	12-23 m	2132	57	DTP3	Card	23.1	12-23 m	1102	34
Hib3	History	10.5	12-23 m	2132	57	DTP3	Card <12 months	27.6	12-23 m	1102	34
MCV1	C or H <12 months	52.5	12-23 m	880	57	DTP3	Card or History	33.9	12-23 m	1102	34
MCV1	Card	31.2	12-23 m	2132	57	DTP3	History	10.9	12-23 m	1102	34
MCV1	Card or History	57.8	12-23 m	2132	57	MCV1	Card	24.9	12-23 m	1102	34
MCV1	History	26.5	12-23 m	2132	57	MCV1	Card <12 months	42.4	12-23 m	1102	34
Pol1	Card	45.5	12-23 m	2132	57	MCV1	Card or History	53.4	12-23 m	1102	34
Pol1	Card or History	98	12-23 m	2132	57	MCV1	History	28.5	12-23 m	1102	34
Pol1	History	52.5	12-23 m	2132	57	Pol1	Card	30.1	12-23 m	1102	34
Pol3	Card	33.1	12-23 m	2132	57	Pol1	Card <12 months	73.7	12-23 m	1102	34
Pol3	Card or History	62.7	12-23 m	2132	57	Pol1	Card or History	82.4	12-23 m	1102	34
Pol3	History	29.6	12-23 m	2132	57	Pol1	History	52.3	12-23 m	1102	34
YFV	C or H <12 months	45.4	12-23 m	880	57	Pol3	Card	23.7	12-23 m	1102	34
YFV	Card	28.5	12-23 m	2132	57	Pol3	Card <12 months	51.4	12-23 m	1102	34
YFV	Card or History	50.6	12-23 m	2132	57	Pol3	Card or History	63.2	12-23 m	1102	34
YFV	History	22.1	12-23 m	2132	57	Pol3	History	39.5	12-23 m	1102	34

2000 Angola Multiple Indicator Cluster Survey 2001

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