

Suriname: 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.

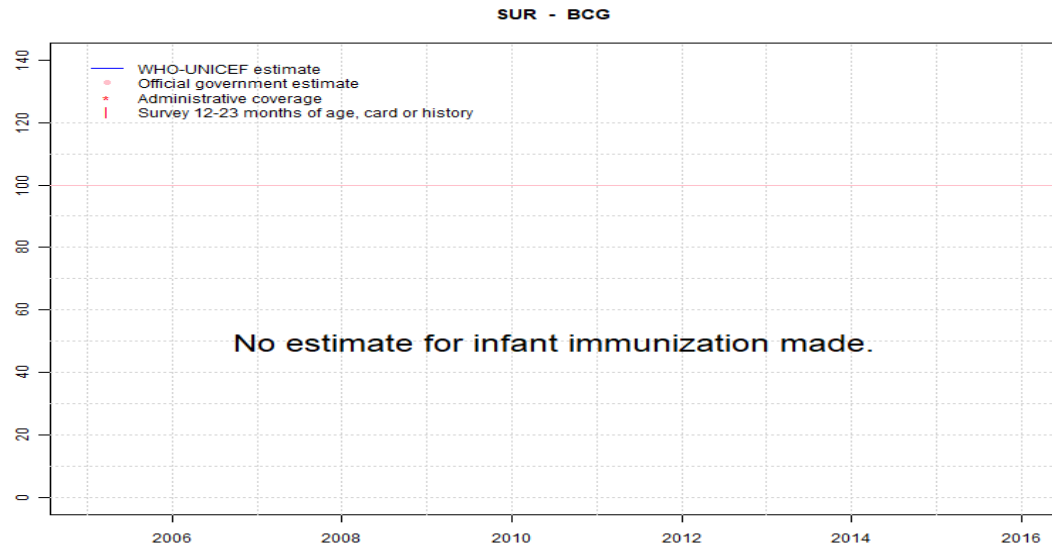
RotaC: percentage of surviving infants who received the final recommended dose of rotavirus vaccine, which can be either the 2nd or the 3rd dose depending on the vaccine.

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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Suriname - BCG



	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

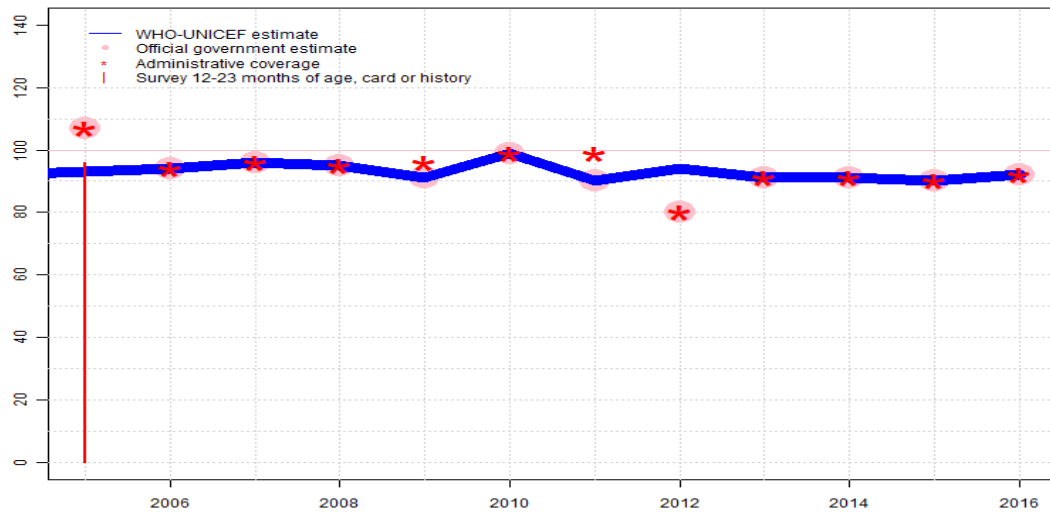
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Suriname - DTP1

SUR - DTP1



Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a Multiple Indicator Cluster Survey in 2017 and await the final vaccination coverage results from the survey. GoC=R+ 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. GoC=R+ D+
- 2012: DTP1 coverage estimated based on DTP3 coverage of 84. Estimate challenged by: D-R-
- 2011: Estimate based on coverage reported by national government. GoC=R+ D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2009: Estimate based on coverage reported by national government. Survey results for DTP1 are not presented due to transitions to DTP-HepB-Hib vaccine during period covered by survey. GoC=R+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2006: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2005: Estimate based on interpolation between data reported by national government. Suriname Multiple Indicator Cluster Survey 2006 results ignored by working group. Survey conducted for year of pentavalent introduction. Reported data excluded because 107 percent greater than 100 percent. Reported data excluded due to an unexplained increase from 92 percent to 107 percent with decrease 94 percent. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	93	94	96	95	91	99	90	80	91	91	90	92
Estimate GoC	●●	●	●●	●●	●●	●●	●●	●	●●	●●	●●	●●
Official	107	94	96	95	91	99	90	80	91	91	90	92
Administrative	107	94	96	95	96	99	99	80	91	91	90	92
Survey	96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

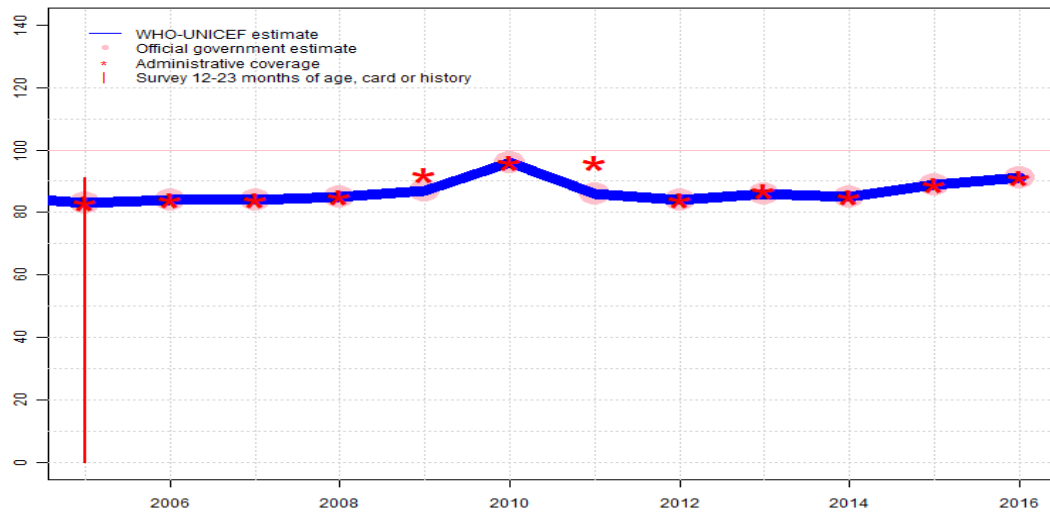
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- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While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

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Suriname - DTP3

SUR - DTP3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	83	84	84	85	87	96	86	84	86	85	89	91
Estimate GoC	•	••	••	••	••	••	•	••	••	••	••	••
Official	83	84	84	85	87	96	86	84	86	85	89	91
Administrative	83	84	84	85	92	96	96	84	87	85	89	91
Survey	91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

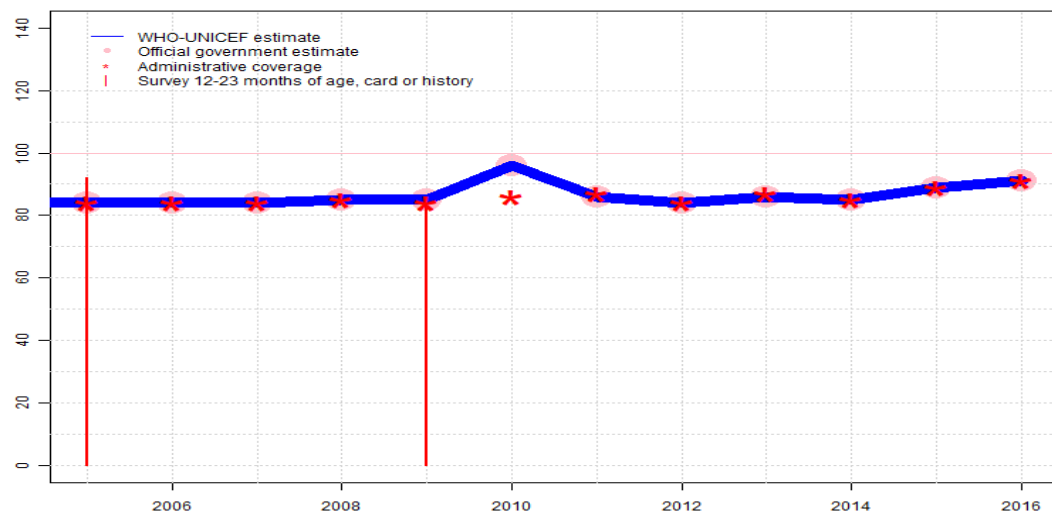
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a Multiple Indicator Cluster Survey in 2017 and await the final vaccination coverage results from the survey. GoC=R+ 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. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2009: Estimate based on coverage reported by national government. Survey results for DTP3 are not presented due to transitions to DTP-HepB-Hib vaccine during period covered by survey. GoC=R+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2006: Estimate follows reported data. GoC=R+ D+
- 2005: Estimate based on coverage reported by national government. Suriname Multiple Indicator Cluster Survey 2006 results ignored by working group. Survey conducted for year of pentavalent introduction. Suriname Multiple Indicator Cluster Survey 2006 card or history results of 91 percent modified for recall bias to 96 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 84 percent and 3d dose card only coverage of 84 percent. Estimate challenged by: D-

Suriname - Pol3

SUR - Pol3



Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a Multiple Indicator Cluster Survey in 2017 and await the final vaccination coverage results from the survey. GoC=R+ 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. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. One month vaccine shortage. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 87 percent based on 1 survey(s). Suriname Multiple Indicator Cluster Survey 2010 card or history results of 83 percent modified for recall bias to 87 percent based on 1st dose card or history coverage of 90 percent, 1st dose card only coverage of 80 percent and 3d dose card only coverage of 77 percent. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2006: Estimate follows reported data. GoC=R+ D+
- 2005: Estimate based on coverage reported by national government. Suriname Multiple Indicator Cluster Survey 2006 results ignored by working group. Survey conducted for year of pentavalent introduction. Suriname Multiple Indicator Cluster Survey 2006 card or history results of 92 percent modified for recall bias to 97 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 84 percent and 3d dose card only coverage of 83 percent. Estimate challenged by: D-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	84	84	84	85	85	96	86	84	86	85	89	91
Estimate GoC	•	••	•••	•••	•••	•	•••	••	••	••	••	••
Official	84	84	84	85	85	96	86	84	86	85	89	91
Administrative	84	84	84	85	84	86	87	84	87	85	89	91
Survey	92	NA	NA	NA	83	NA	NA	NA	NA	NA	NA	NA

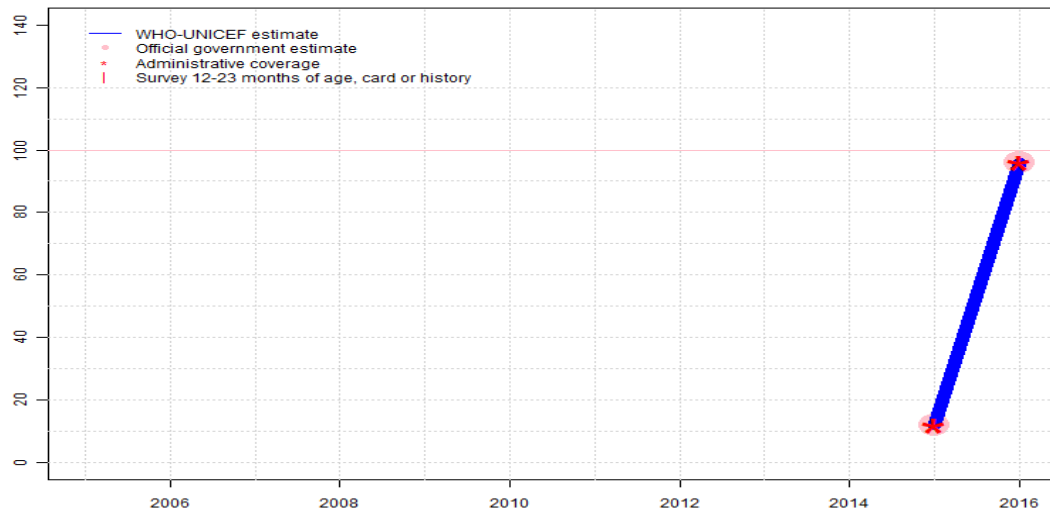
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- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While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

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Suriname - IPV1

SUR - IPV1



Description:

2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a Multiple Indicator Cluster Survey in 2017 and await the final vaccination coverage results from the survey. Estimate is based on reported data following introduction. GoC=R+ D+

2015: Estimate based on coverage reported by national government. IPV introduced during 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	12	96
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	••	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12	96
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12	96
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

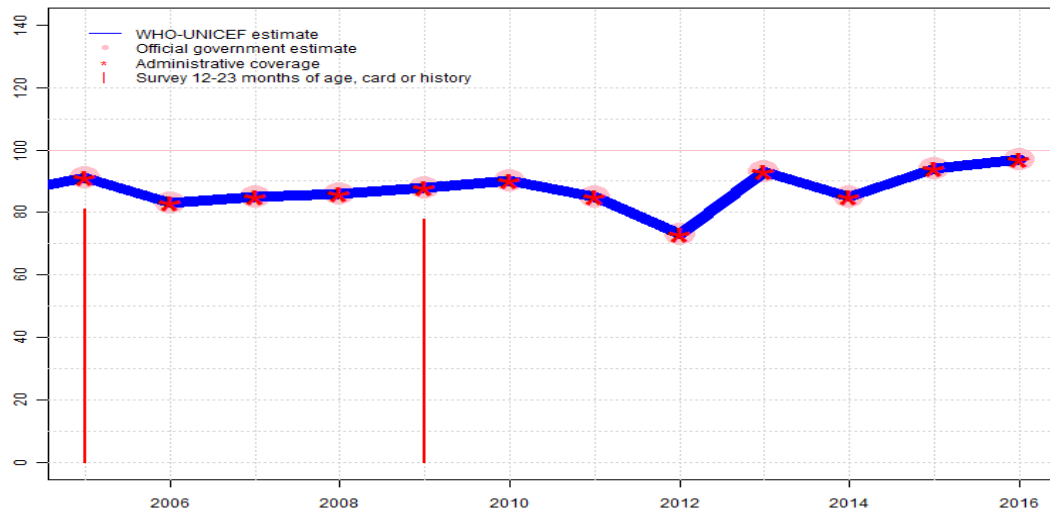
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- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While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

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Suriname - MCV1

SUR - MCV1



Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a Multiple Indicator Cluster Survey in 2017 and await the final vaccination coverage results from the survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Programme reports a three month stock-out at national level. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government. Increase in coverage reflects recovery from prior years stockout in spite of 2 month stockout during 2013 at national level and in 2 districts. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. One month vaccine shortage. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: S-
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 78 percent based on 1 survey(s). GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2006: Estimate based on coverage reported by national government. GoC=R+ D+
- 2005: Estimate based on coverage reported by national government. Suriname Multiple Indicator Cluster Survey 2006 results ignored by working group. Survey conducted for year of pentavalent introduction. Reported coverage includes doses administered during campaign. Estimate challenged by: D-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	91	83	85	86	88	90	85	73	93	85	94	97
Estimate GoC	•	••	•••	•••	•••	•	•••	••	••	••	••	••
Official	91	83	85	86	88	90	85	73	93	85	94	97
Administrative	91	83	85	86	88	90	85	73	93	85	94	97
Survey	81	NA	NA	NA	78	NA	NA	NA	NA	NA	NA	NA

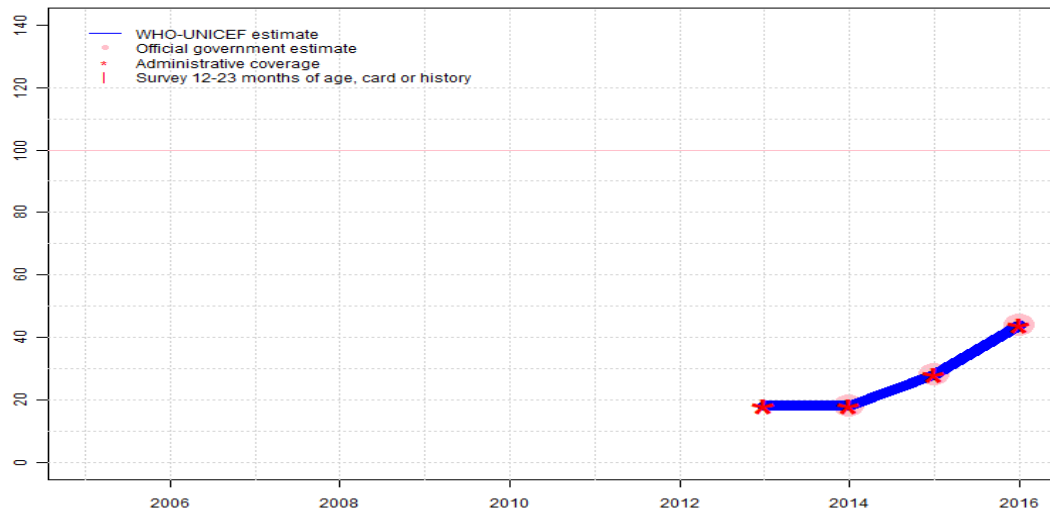
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- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While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

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Suriname - MCV2

SUR - 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. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a Multiple Indicator Cluster Survey in 2017 and await the final vaccination coverage results from the survey. Estimate based on reported data following a change in recommended age for vaccination. GoC=R+ 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 reported administrative estimate. Second dose of MCV introduced during 2005 but not systematically provided until 2013. Reporting started in 2013. Presentation is MMR and is recommended at 4 years of age. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	18	18	28	44
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	••	••	••	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	18	28	44
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	18	18	28	44
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

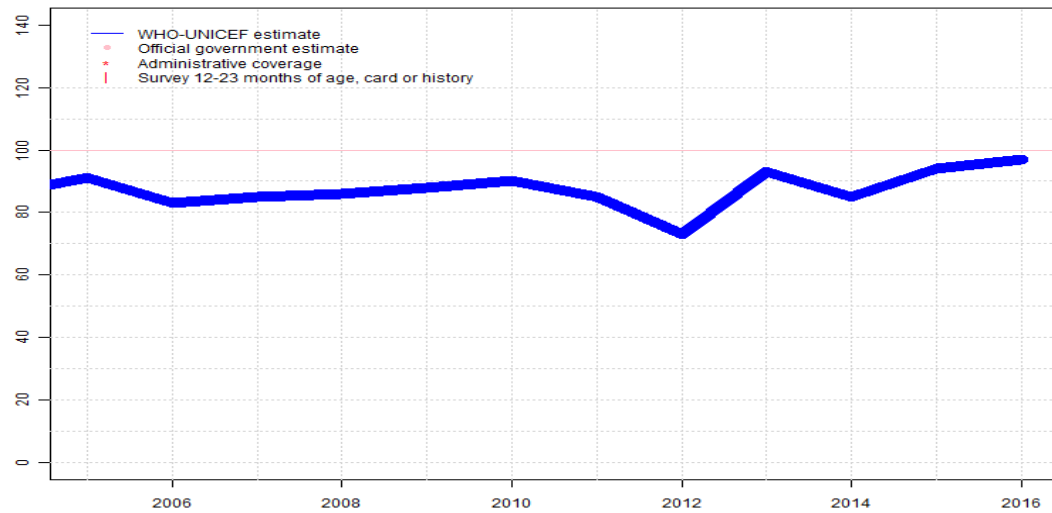
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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Suriname - RCV1

SUR - RCV1



Description:

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

2016: Estimate based on estimated MCV1. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a Multiple Indicator Cluster Survey in 2017 and await the final vaccination coverage results from the survey. GoC=R+ D+

2015: Estimate based on estimated MCV1. GoC=R+ D+

2014: Estimate based on estimated MCV1. GoC=R+ D+

2013: Estimate based on estimated MCV1. GoC=R+ D+

2012: Estimate based on estimated MCV1. GoC=R+ D+

2011: Estimate based on estimated MCV1. GoC=R+ S+ D+

2010: Estimate based on estimated MCV1. Estimate challenged by: S-

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

2008: Estimate based on estimated MCV1. GoC=R+ S+ D+

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

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

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

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	91	83	85	86	88	90	85	73	93	85	94	97
Estimate GoC	•	••	•••	•••	•••	•	•••	••	••	••	••	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

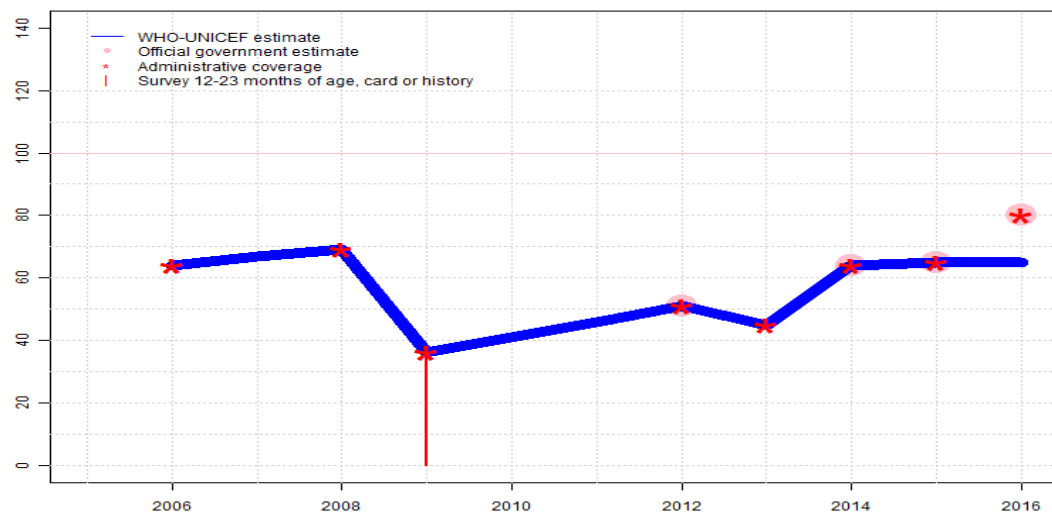
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

Suriname - HepBB

SUR - HepBB



Description:

- 2016: Estimate based on extrapolation from data reported by national government. Reported data excluded due to unexplained sudden change in coverage from 65 level to 80 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a Multiple Indicator Cluster Survey in 2017 and await the final vaccination coverage results from the survey. 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. Estimate based on reported data. GoC=R+
- 2013: Estimate based on reported administrative data. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on interpolation between data reported by national government. GoC=S+
- 2010: Estimate based on interpolation between data reported by national government. GoC=S+
- 2009: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 38 percent based on 1 survey(s). GoC=R+ S+ D+
- 2008: Estimate based on reported data. Estimate challenged by: S-
- 2007: Estimate based on interpolation between data reported by national government. Estimate challenged by: S-
- 2006: Estimate based on reported data. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	64	67	69	36	41	46	51	45	64	65	65
Estimate GoC	NA	••	•	•	•••	••	••	••	••	••	••	•
Official	NA	NA	NA	NA	NA	NA	NA	51	NA	64	65	80
Administrative	NA	64	NA	69	36	NA	NA	51	45	64	65	80
Survey	NA	NA	NA	NA	38	NA	NA	NA	NA	NA	NA	NA

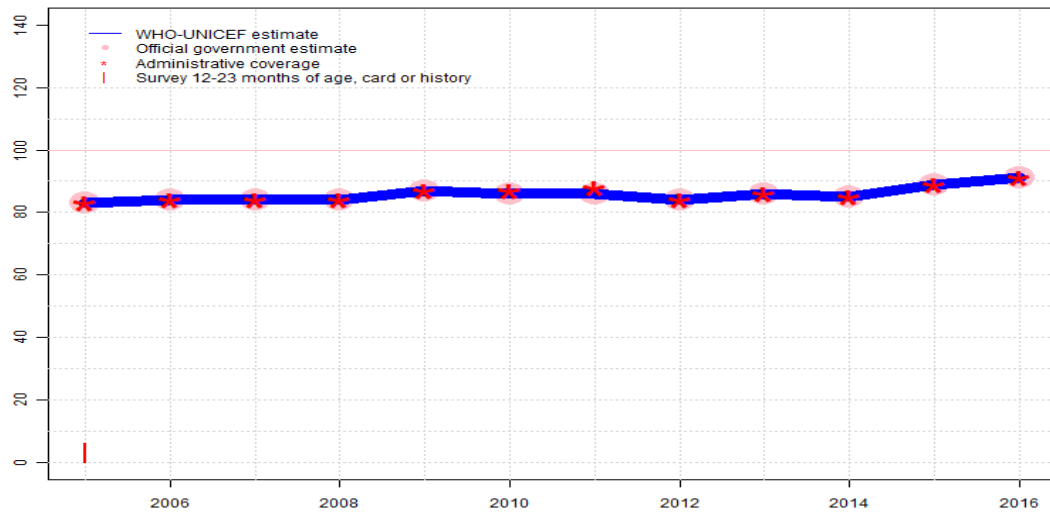
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Suriname - HepB3

SUR - HepB3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	83	84	84	84	87	86	86	84	86	85	89	91
Estimate GoC	•	•	••	••	••	••	••	••	••	•	••	••
Official	83	84	84	84	87	86	86	84	86	85	89	91
Administrative	83	84	84	84	87	87	88	84	86	85	89	91
Survey	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

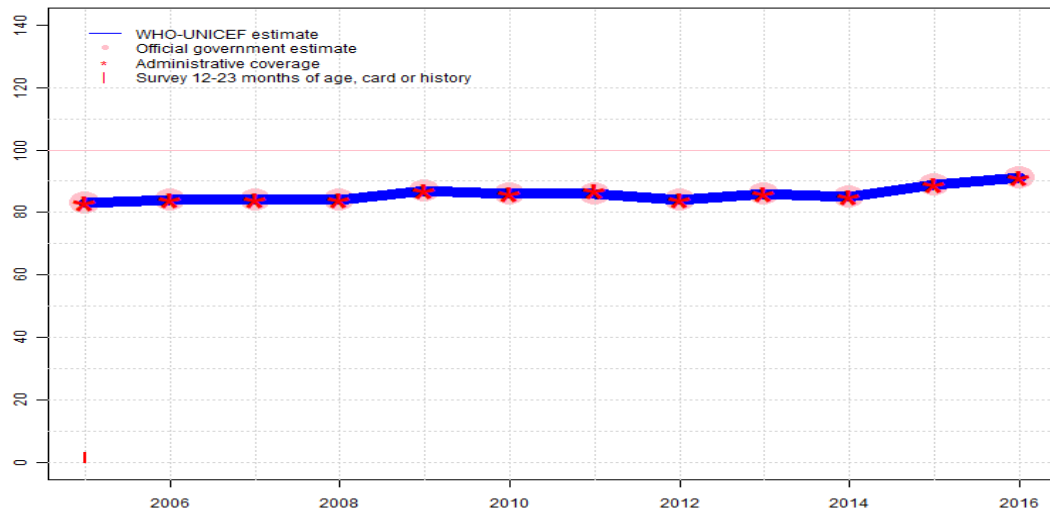
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a Multiple Indicator Cluster Survey in 2017 and await the final vaccination coverage results from the survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: 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: Estimate based on coverage reported by national government. GoC=R+ D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2009: Estimate based on coverage reported by national government. Survey results for HepB3 are not presented due to transitions to DTP-HepB-Hib vaccine during period covered by survey. GoC=R+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2006: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2005: Estimate based on coverage reported by national government. Suriname Multiple Indicator Cluster Survey 2006 results ignored by working group. Survey conducted for year of pentavalent introduction. HepB vaccination introduced in 2003 sub-nationally. Reporting started in 2005, after general introduction of HepB nationwide. Vaccine presentation is DTP-HepB-Hib. Estimate challenged by: D-

Suriname - Hib3

SUR - Hib3



Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a Multiple Indicator Cluster Survey in 2017 and await the final vaccination coverage results from the survey. GoC=R+ 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. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2009: Estimate based on coverage reported by national government. Survey results for Hib3 are not presented due to transitions to DTP-HepB-Hib vaccine during period covered by survey. GoC=R+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2006: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2005: Estimate based on coverage reported by national government. Suriname Multiple Indicator Cluster Survey 2006 results ignored by working group. Survey conducted for year of pentavalent introduction. Hib vaccination introduced in 2003 sub-nationally. Reporting started in 2005, after general introduction of HepB nationwide. Vaccine presentation is DTP-HepB-Hib. Estimate challenged by: D-

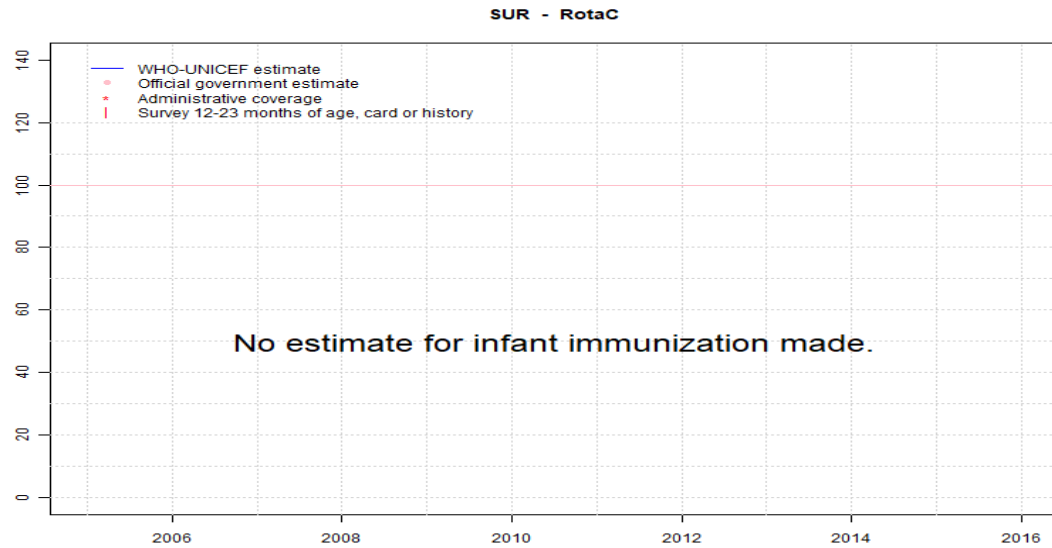
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	83	84	84	84	87	86	86	84	86	85	89	91
Estimate GoC	•	•	••	••	••	••	••	••	••	••	••	••
Official	83	84	84	84	87	86	86	84	86	85	89	91
Administrative	83	84	84	84	87	86	87	84	86	85	89	91
Survey	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

Suriname - RotaC



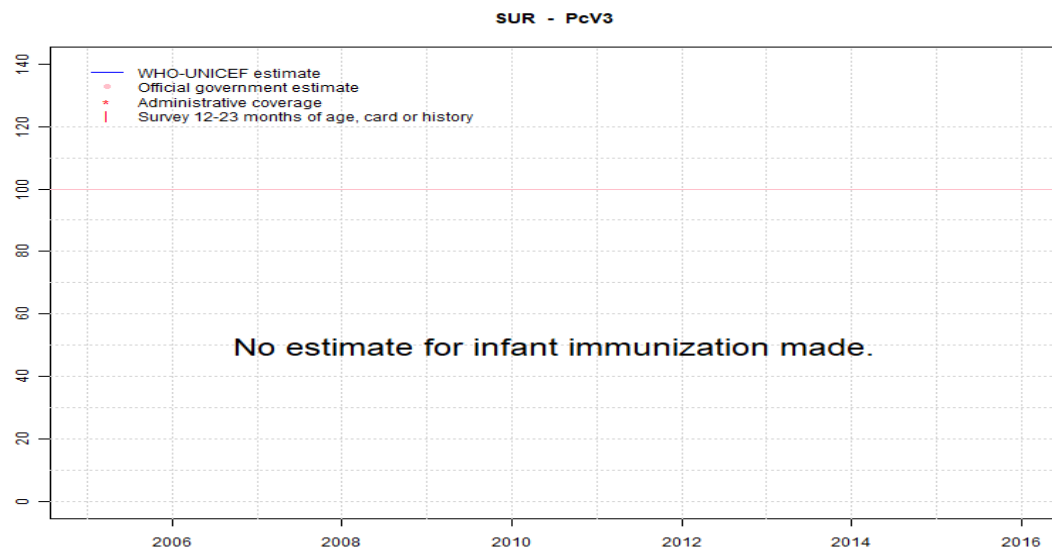
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

Suriname - PcV3



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

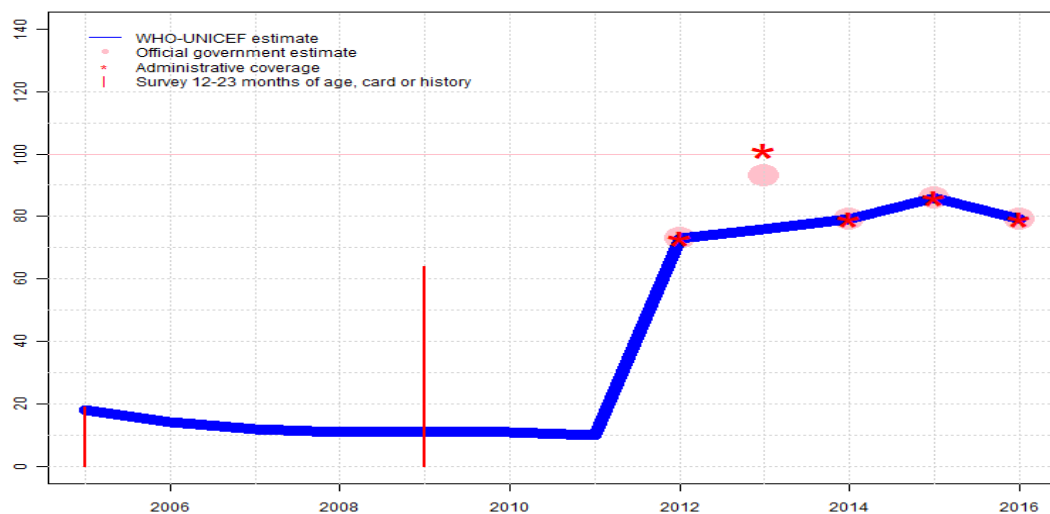
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

Suriname - YFV

SUR - YFV



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	18	14	12	11	11	11	10	73	76	79	86	79
Estimate GoC	••	••	••	••	•	••	••	••	•	••	••	••
Official	NA	NA	NA	NA	NA	NA	NA	73	93	79	86	79
Administrative Survey	NA	NA	NA	NA	NA	NA	NA	73	101	79	86	79

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. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a Multiple Indicator Cluster Survey in 2017 and await the final vaccination coverage results from the survey. Programme reports a three week vaccine stock-out. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Estimate is based on reported data. Decline in reported number of doses administered is unexplained. GoC=R+ D+
- 2013: Estimate based on interpolation between reported values. Reported data excluded. Increase reflects expansion of service delivery following introduction to national birth cohort in 2012 and suboptimal recording practices. Reported data excluded due to an unexplained increase from 73 percent to 93 percent with decrease 79 percent. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. Yellow fever vaccine is now offered to the entire national target population. GoC=R+ D+
- 2011: YFV introduced in 2005 for high-risk areas only. Seventy-seven percent coverage was achieved in 13 percent of the total annual national target population. GoC=D+
- 2010: YFV introduced in 2005 for high-risk areas only. Eighty percent coverage was achieved in 14 percent of the total annual national target population. GoC=D+
- 2009: Estimate extrapolated from 2008 estimate. No reported data provided. Survey results ignored. Sample size 154 less than 300. GoC=No accepted empirical data
- 2008: YFV introduced in 2005 for high-risk areas only. Seventy-one percent coverage was achieved in 16 percent of the national target population. GoC=D+
- 2007: YFV introduced in 2005 for high-risk areas only. Eighty-two percent coverage was achieved in 15 percent of the national target population. GoC=D+
- 2006: YFV introduced in 2005 for high-risk areas only. Eighty percent coverage was achieved in 17 percent of the national target population. GoC=D+
- 2005: YFV introduced in 2005 for high-risk areas only. Ninety-seven percent coverage was achieved in 18 percent of the national target population. Suriname Multiple Indicator Cluster Survey 2006 results ignored by working group. Survey conducted for year of pentavalent introduction. YFV partially introduced in 2004. Reporting started in 2005. GoC=D+

Suriname - survey details

2009 Suriname Multiple Indicator Cluster Survey 2010

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
HepBB	C or H <12 months	38	18-29 m	-	82
HepBB	Card	33	18-29 m	-	82
HepBB	Card or History	38	18-29 m	746	82
HepBB	History	6	18-29 m	-	82
MCV1	C or H <18 months	74	18-29 m	-	82
MCV1	Card	70	18-29 m	-	82
MCV1	Card or History	78	18-29 m	746	82
MCV1	History	7	18-29 m	-	82
Pol1	C or H <12 months	90	18-29 m	-	82
Pol1	Card	80	18-29 m	-	82
Pol1	Card or History	90	18-29 m	746	82
Pol1	History	10	18-29 m	-	82
Pol3	C or H <12 months	79	18-29 m	-	82
Pol3	Card	77	18-29 m	-	82
Pol3	Card or History	83	18-29 m	746	82
Pol3	History	6	18-29 m	-	82
YFV	C or H <12 months	15	18-29 m	-	82
YFV	Card	59	18-29 m	-	82
YFV	Card or History	64	18-29 m	154	82
YFV	History	5	18-29 m	-	82

2005 Suriname Multiple Indicator Cluster Survey 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
DTP1	C or H <12 months	95	12-23 m	412	81
DTP1	Card	84	12-23 m	412	81
DTP1	Card or History	96	12-23 m	412	81
DTP1	History	12	12-23 m	412	81
DTP3	C or H <12 months	86	12-23 m	412	81
DTP3	Card	84	12-23 m	412	81
DTP3	Card or History	91	12-23 m	412	81
DTP3	History	7	12-23 m	412	81
HepB1	C or H <12 months	9	12-23 m	412	81
HepB1	Card	9	12-23 m	412	81
HepB1	Card or History	9	12-23 m	412	81

HepB1	History	0	12-23 m	412	81
HepB3	C or H <12 months	3	12-23 m	412	81
HepB3	Card	6	12-23 m	412	81
HepB3	Card or History	6	12-23 m	412	81
HepB3	History	0	12-23 m	412	81
Hib1	C or H <12 months	4	12-23 m	412	81
Hib1	Card	4	12-23 m	412	81
Hib1	Card or History	4	12-23 m	412	81
Hib1	History	0	12-23 m	412	81
Hib3	C or H <12 months	3	12-23 m	412	81
Hib3	Card	3	12-23 m	412	81
Hib3	Card or History	3	12-23 m	412	81
Hib3	History	0	12-23 m	412	81
MCV1	C or H <12 months	80	12-23 m	412	81
MCV1	Card	66	12-23 m	412	81
MCV1	Card or History	81	12-23 m	412	81
MCV1	History	15	12-23 m	412	81
Pol1	C or H <12 months	97	12-23 m	412	81
Pol1	Card	84	12-23 m	412	81
Pol1	Card or History	98	12-23 m	412	81
Pol1	History	14	12-23 m	412	81
Pol3	C or H <12 months	88	12-23 m	412	81
Pol3	Card	83	12-23 m	412	81
Pol3	Card or History	92	12-23 m	412	81
Pol3	History	9	12-23 m	412	81
YFV	C or H <12 months	18	12-23 m	412	81
YFV	Card	12	12-23 m	412	81
YFV	Card or History	19	12-23 m	412	81
YFV	History	7	12-23 m	412	81

1999 Suriname Multiple Indicator Cluster Survey 2000, 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
DTP1	Card	84	12-23 m	376	85
DTP1	Card or History	89	12-23 m	376	85
DTP1	History	5	12-23 m	376	85
DTP3	Card	76	12-23 m	376	85
DTP3	Card or History	79	12-23 m	376	85
DTP3	History	3	12-23 m	376	85

Suriname - survey details

MCV1	Card	56	12-23 m	376	85	Pol1	History	4	12-23 m	376	85
MCV1	Card or History	60	12-23 m	376	85	Pol3	Card	76	12-23 m	376	85
MCV1	History	5	12-23 m	376	85	Pol3	Card or History	78	12-23 m	376	85
Pol1	Card	84	12-23 m	376	85	Pol3	History	3	12-23 m	376	85
Pol1	Card or History	88	12-23 m	376	85						

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