

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.

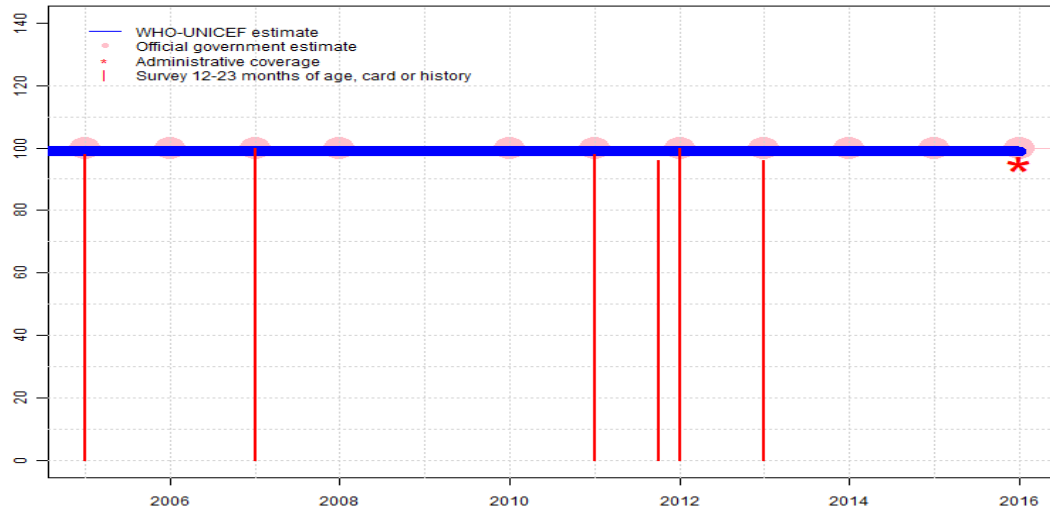
PcV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

THA - BCG



Description:

- 2016: Estimate based on coverage reported by national government. Reported official estimates are based on a 2013 cluster coverage survey. GoC=R+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+
- 2014: Estimate based on coverage reported by national government. GoC=R+ S+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). GoC=R+ S+
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 2 survey(s). GoC=R+ S+
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+
- 2009: Estimate based on interpolation between coverage reported by national government. GoC=S+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+
- 2007: Estimate based on coverage reported by national government supported by survey. Survey evidence of 100 percent based on 1 survey(s). GoC=R+ S+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+
- 2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	99	99	99	99	99	99	99	99	99	99	99	99
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	100	100	100	100	NA	100	100	100	100	100	100	100
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	95
Survey	98	NA	100	NA	NA	NA	98	*	96	NA	NA	NA

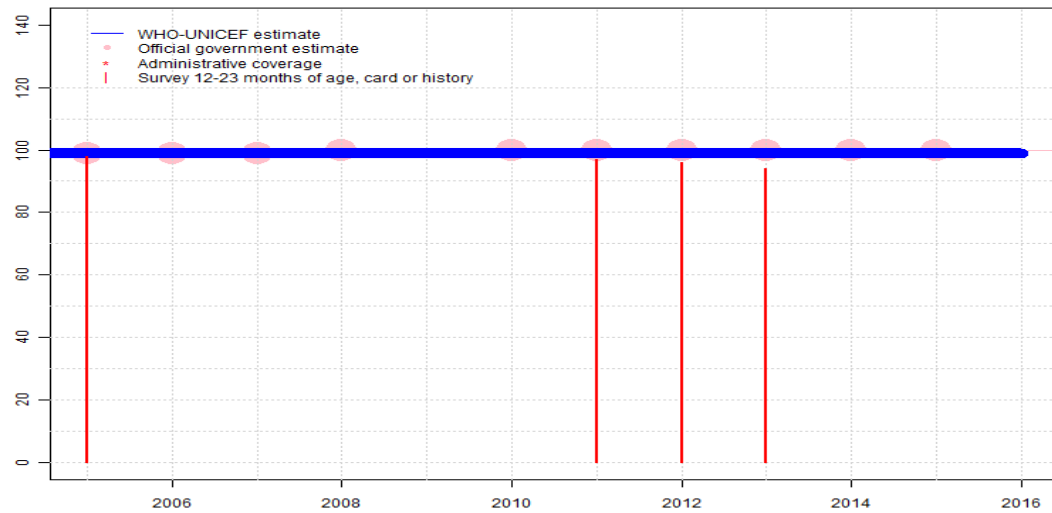
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Thailand - DTP1

THA - DTP1



Description:

- 2016: Estimate based on extrapolation from data reported by national government. Reported official estimates are based on a 2013 cluster coverage survey. GoC=No accepted empirical data
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+
- 2014: Estimate based on coverage reported by national government. GoC=R+ S+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). GoC=R+ S+
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). GoC=R+ S+
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). GoC=R+ S+
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+
- 2009: Estimate based on interpolation between coverage reported by national government. GoC=S+
- 2008: Estimate based on coverage reported by national government. GoC=R+
- 2007: Estimate based on coverage reported by national government. GoC=R+ S+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+
- 2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	99	99	99	99	99	99	99	99	99	99	99	99
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●
Official	99	99	99	100	NA	100	100	100	100	100	100	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	98	NA	NA	NA	NA	NA	97	96	94	NA	NA	NA

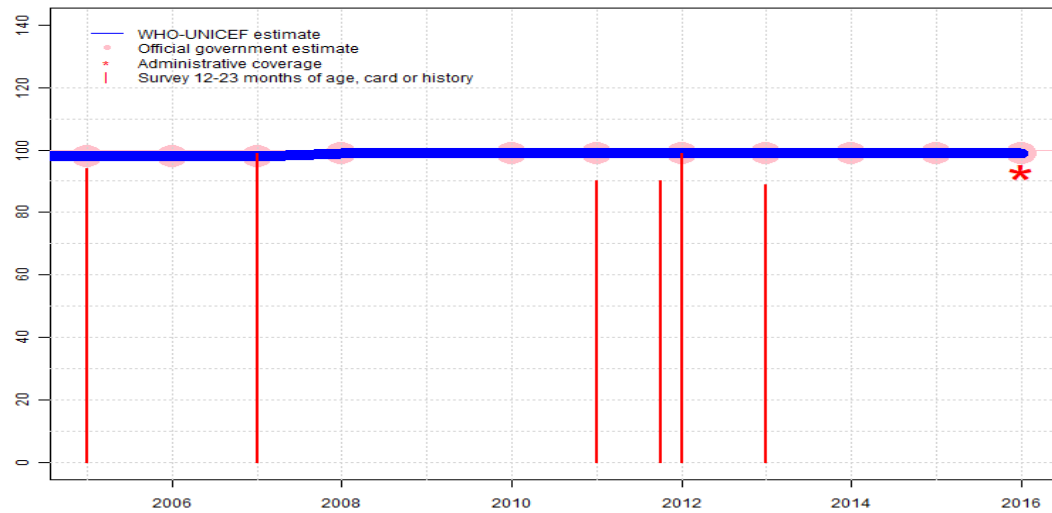
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Thailand - DTP3

THA - DTP3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	98	98	98	99	99	99	99	99	99	99	99	99
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	98	98	98	99	NA	99	99	99	99	99	99	99
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93
Survey	94	NA	99	NA	NA	NA	90	*	89	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.

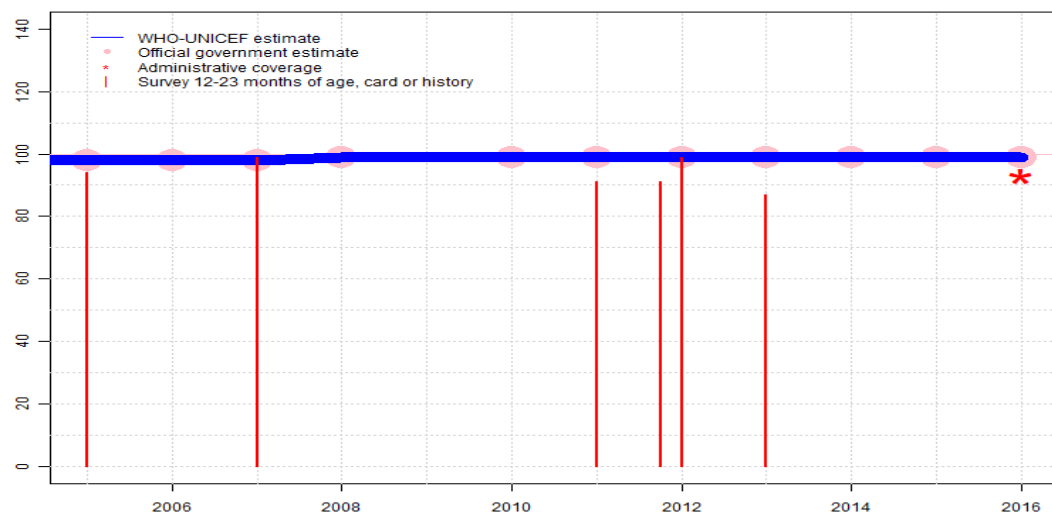
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. Reported official estimates are based on a 2013 cluster coverage survey. GoC=R+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+
- 2014: Estimate based on coverage reported by national government. GoC=R+ S+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 90 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2015-2016 card or history results of 89 percent modified for recall bias to 90 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 84 percent and 3d dose card only coverage of 80 percent. GoC=R+ S+
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 96 percent based on 2 survey(s). Thailand Multiple Indicator Cluster Survey 2015-2016 card or history results of 90 percent modified for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 86 percent and 3d dose card only coverage of 82 percent. GoC=R+ S+
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2012 card or history results of 90 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 82 percent and 3d dose card only coverage of 80 percent. GoC=R+ S+
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+
- 2009: Estimate based on interpolation between coverage reported by national government. GoC=S+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+
- 2007: Estimate based on coverage reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). GoC=R+ S+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+
- 2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey, December 2005 – February 2006 card or history results of 94 percent modified for recall bias to 98 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 89 percent and 3d dose card only coverage of 89 percent. GoC=R+ S+

Thailand - Pol3

THA - Pol3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	98	98	98	99	99	99	99	99	99	99	99	99
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	98	98	98	99	NA	99	99	99	99	99	99	99
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93
Survey	94	NA	99	NA	NA	NA	91	*	87	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.
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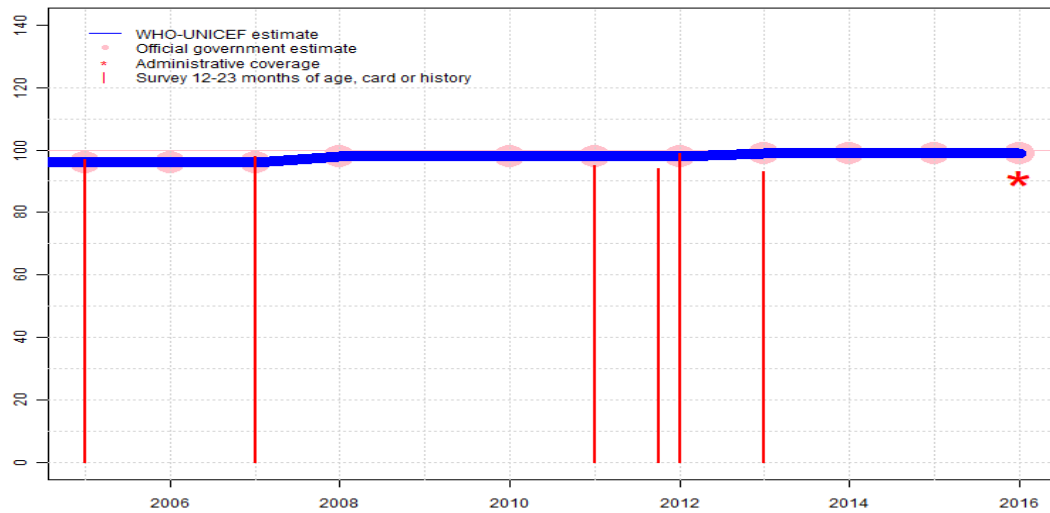
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. Reported official estimates are based on a 2013 cluster coverage survey. GoC=R+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+
- 2014: Estimate based on coverage reported by national government. GoC=R+ S+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2015-2016 card or history results of 87 percent modified for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 86 percent and 3d dose card only coverage of 82 percent. GoC=R+ S+
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 2 survey(s). Thailand Multiple Indicator Cluster Survey 2015-2016 card or history results of 91 percent modified for recall bias to 94 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 86 percent and 3d dose card only coverage of 84 percent. GoC=R+ S+
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2012 card or history results of 91 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 81 percent and 3d dose card only coverage of 80 percent. GoC=R+ S+
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+
- 2009: Estimate based on interpolation between coverage reported by national government. GoC=S+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+
- 2007: Estimate based on coverage reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). GoC=R+ S+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+
- 2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey, December 2005 – February 2006 card or history results of 94 percent modified for recall bias to 98 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 88 percent and 3d dose card only coverage of 88 percent. GoC=R+ S+

Thailand - MCV1

THA - MCV1



Description:

- 2016: Estimate based on coverage reported by national government. Reported official estimates are based on a 2013 cluster coverage survey. GoC=R+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+
- 2014: Estimate based on coverage reported by national government. GoC=R+ S+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 93 percent based on 1 survey(s). GoC=R+ S+
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 2 survey(s). GoC=R+ S+
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). GoC=R+ S+
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+
- 2009: Estimate based on interpolation between coverage reported by national government. GoC=S+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+
- 2007: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+
- 2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). GoC=R+ S+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	96	96	96	98	98	98	98	98	99	99	99	99
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	96	96	96	98	NA	98	98	98	99	99	99	99
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	91
Survey	97	NA	98	NA	NA	NA	95	*	93	NA	NA	NA

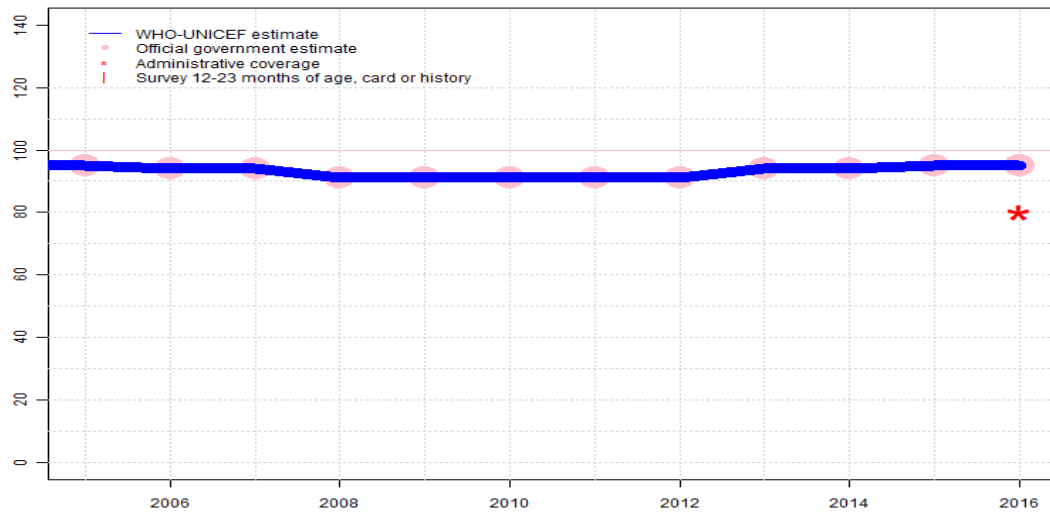
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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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Thailand - MCV2

THA - 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. Reported official estimates are based on a 2013 cluster coverage survey. GoC=R+

2015: Estimate based on coverage reported by national government. GoC=R+

2014: Estimate based on coverage reported by national government. GoC=R+

2013: Estimate based on coverage reported by national government. GoC=R+

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

2011: Estimate based on coverage reported by national government. GoC=R+

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

2009: Estimate based on coverage reported by national government. GoC=R+

2008: Estimate based on coverage reported by national government. GoC=R+

2007: Estimate based on coverage reported by national government. GoC=R+

2006: Estimate based on coverage reported by national government. GoC=R+

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

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	95	94	94	91	91	91	91	91	94	94	95	95
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	95	94	94	91	91	91	91	91	94	94	95	95
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

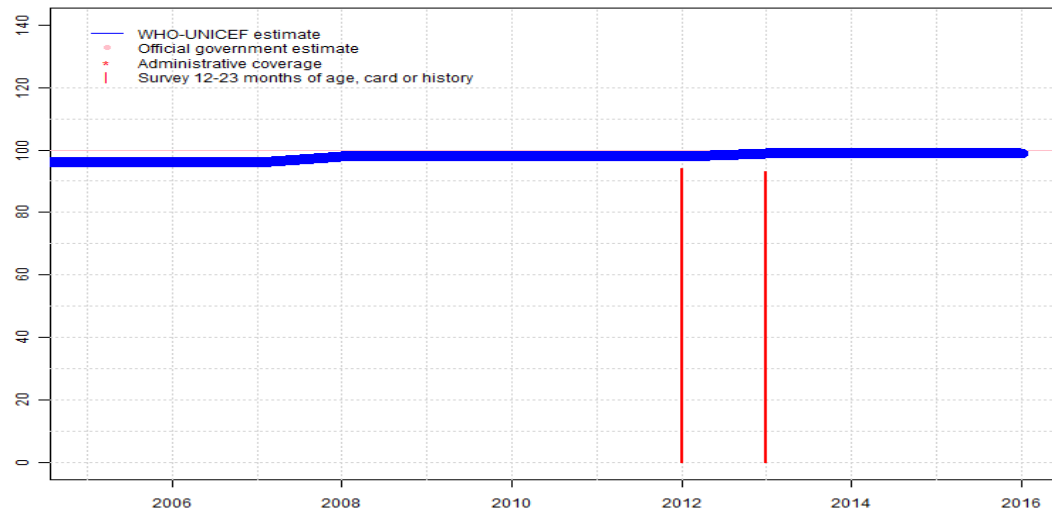
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Thailand - RCV1

THA - 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. Reported official estimates are based on a 2013 cluster coverage survey. GoC=R+

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

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

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

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

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

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

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

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

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

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

2005: Estimate based on estimated MCV1. GoC=R+ S+

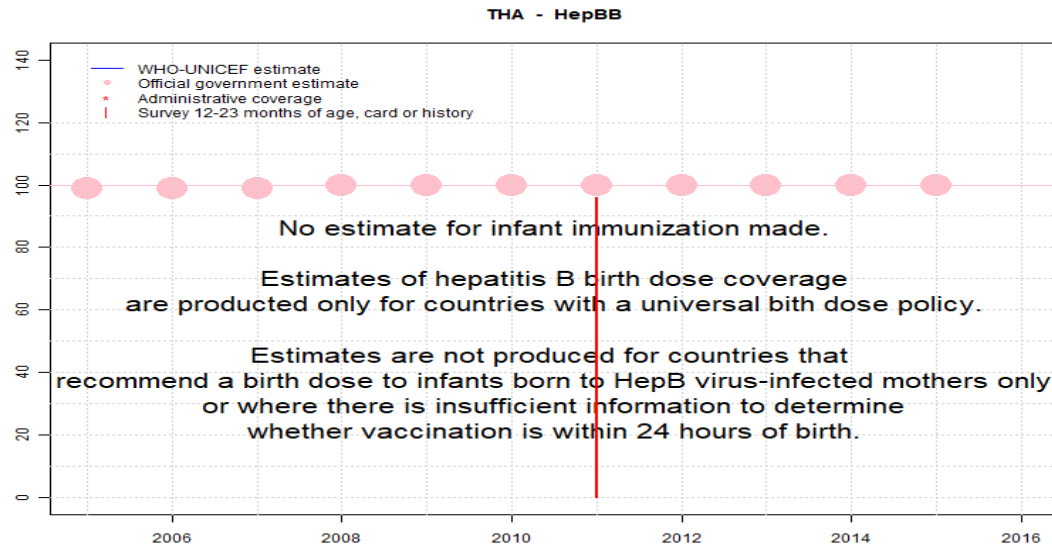
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	96	96	96	98	98	98	98	98	99	99	99	99
Estimate GoC	••	••	••	••	••	••	••	••	••	••	••	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	94	93	NA	NA	NA

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.

Thailand - HepBB



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	99	99	99	100	100	100	100	100	100	100	100	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	96	NA	NA	NA	NA	NA

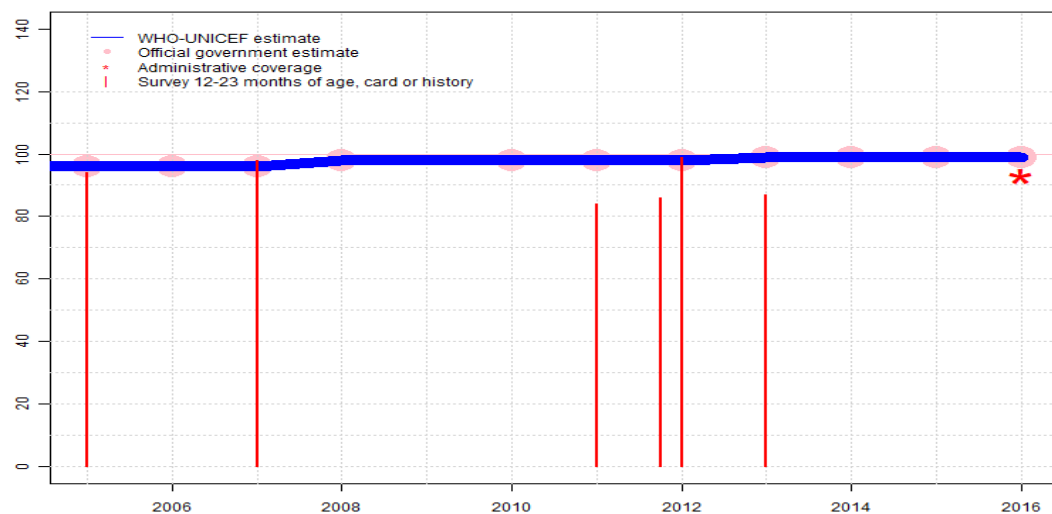
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Thailand - HepB3

THA - HepB3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	96	96	96	98	98	98	98	98	99	99	99	99
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	96	96	96	98	NA	98	98	98	99	99	99	99
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93
Survey	94	NA	98	NA	NA	NA	84	*	87	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.

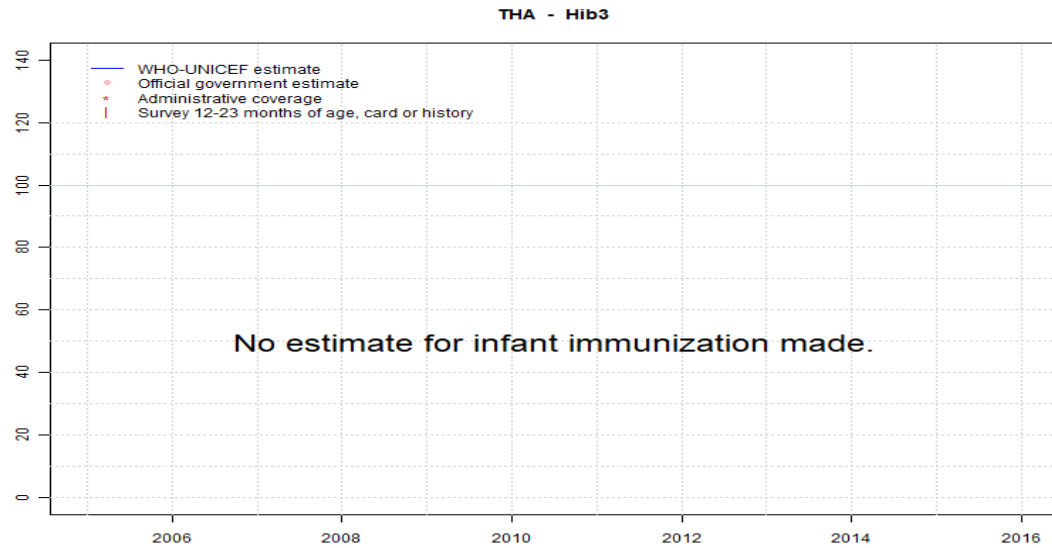
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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. Reported official estimates are based on a 2013 cluster coverage survey. GoC=R+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+
- 2014: Estimate based on coverage reported by national government. GoC=R+ S+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 91 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2015-2016 card or history results of 87 percent modified for recall bias to 91 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 86 percent and 3d dose card only coverage of 83 percent. GoC=R+ S+
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 2 survey(s). Thailand Multiple Indicator Cluster Survey 2015-2016 card or history results of 86 percent modified for recall bias to 91 percent based on 1st dose card or history coverage of 93 percent, 1st dose card only coverage of 86 percent and 3d dose card only coverage of 84 percent. GoC=R+ S+
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2012 card or history results of 84 percent modified for recall bias to 92 percent based on 1st dose card or history coverage of 93 percent, 1st dose card only coverage of 82 percent and 3d dose card only coverage of 81 percent. GoC=R+ S+
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+
- 2009: Estimate based on interpolation between coverage reported by national government. GoC=S+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+
- 2007: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+
- 2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey, December 2005 – February 2006 card or history results of 94 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 89 percent and 3d dose card only coverage of 88 percent. GoC=R+ S+

Thailand - Hib3



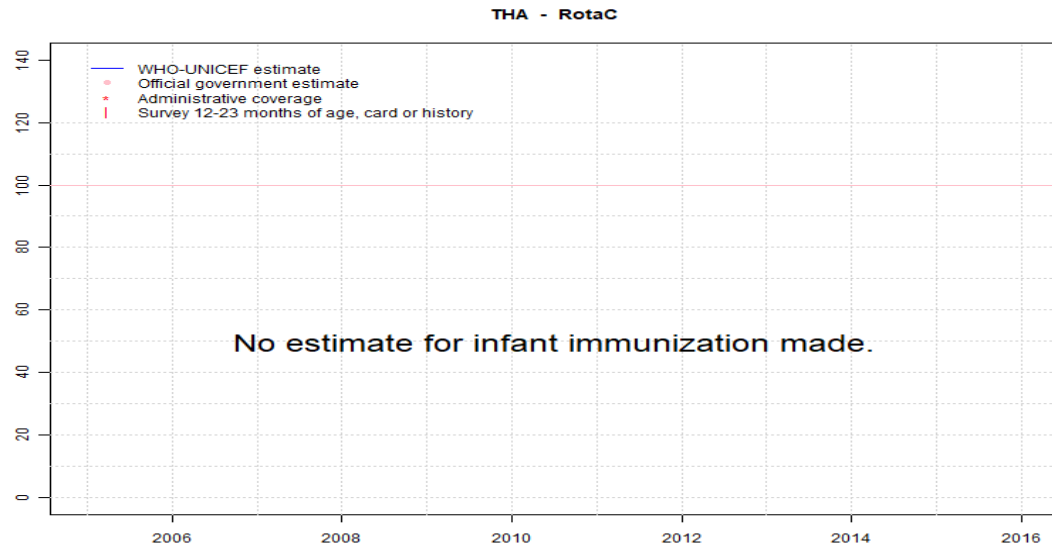
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

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Thailand - RotaC



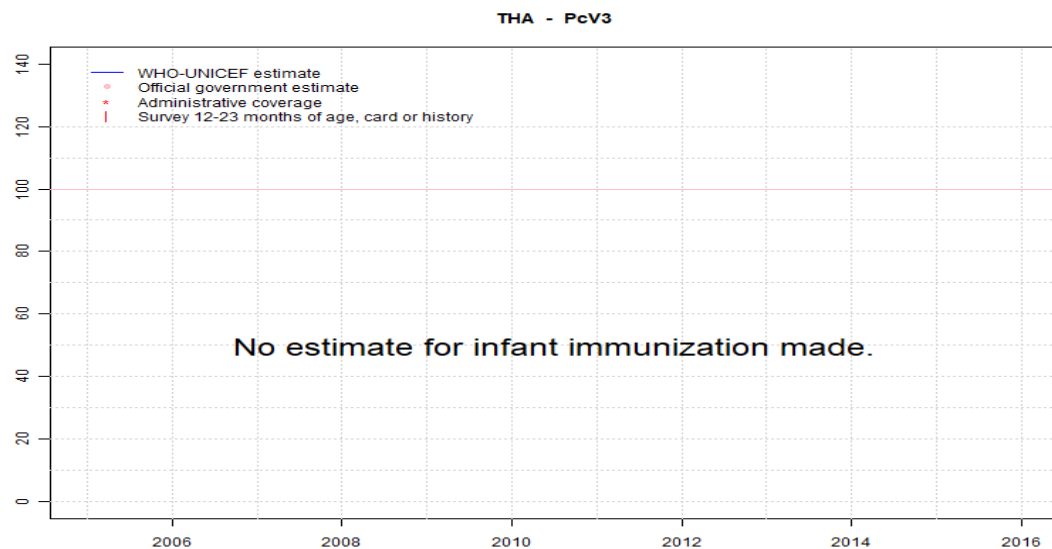
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

Thailand - 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.

Thailand - survey details

2013 Thailand Multiple Indicator Cluster Survey 2015-2016

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	96	12-23 m	2510	86
BCG	Card	86	12-23 m	2510	86
BCG	Card or History	96	12-23 m	2510	86
DTP1	C or H <12 months	94	12-23 m	2510	86
DTP1	Card	84	12-23 m	2510	86
DTP1	Card or History	94	12-23 m	2510	86
DTP3	C or H <12 months	88	12-23 m	2510	86
DTP3	Card	80	12-23 m	2510	86
DTP3	Card or History	89	12-23 m	2510	86
HepB1	C or H <12 months	94	12-23 m	2510	86
HepB1	Card	86	12-23 m	2510	86
HepB1	Card or History	94	12-23 m	2510	86
HepB3	C or H <12 months	84	12-23 m	2510	86
HepB3	Card	83	12-23 m	2510	86
HepB3	Card or History	87	12-23 m	2510	86
MCV1	C or H <12 months	89	12-23 m	2510	86
MCV1	Card	83	12-23 m	2510	86
MCV1	Card or History	93	12-23 m	2510	86
Pol1	C or H <12 months	96	12-23 m	2510	86
Pol1	Card	86	12-23 m	2510	86
Pol1	Card or History	96	12-23 m	2510	86
Pol3	C or H <12 months	86	12-23 m	2510	86
Pol3	Card	82	12-23 m	2510	86
Pol3	Card or History	87	12-23 m	2510	86

2012 Thailand Multiple Indicator Cluster Survey 2015-2016

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	96	24-35 m	2550	86
BCG	Card	85	24-35 m	2550	86
BCG	Card or History	96	24-35 m	2550	86
DTP1	C or H <12 months	94	24-35 m	2550	86
DTP1	Card	86	24-35 m	2550	86
DTP1	Card or History	96	24-35 m	2550	86
DTP3	C or H <12 months	87	24-35 m	2550	86
DTP3	Card	82	24-35 m	2550	86
DTP3	Card or History	90	24-35 m	2550	86
HepB1	C or H <12 months	92	24-35 m	2550	86
HepB1	Card	86	24-35 m	2550	86
HepB1	Card or History	93	24-35 m	2550	86
HepB3	C or H <12 months	80	24-35 m	2550	86
HepB3	Card	84	24-35 m	2550	86
HepB3	Card or History	86	24-35 m	2550	86
MCV1	C or H <12 months	85	24-35 m	2550	86
MCV1	Card	84	24-35 m	2550	86
MCV1	Card or History	94	24-35 m	2550	86
Pol1	C or H <12 months	95	24-35 m	2550	86
Pol1	Card	86	24-35 m	2550	86
Pol1	Card or History	96	24-35 m	2550	86
Pol3	C or H <12 months	86	24-35 m	2550	86
Pol3	Card	84	24-35 m	2550	86
Pol3	Card or History	91	24-35 m	2550	86

2012 Immunization Coverage Survey: Thailand 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	100	12-23 m	2700	-
DTP3	Card or History	99	12-23 m	2700	-
HepB3	Card or History	99	12-23 m	2700	-
MCV1	Card or History	99	12-23 m	2700	-
Pol3	Card or History	99	12-23 m	2700	-

2011 Thailand Multiple Indicator Cluster Survey 2012

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	98	12-23 m	1827	82
BCG	Card	82	12-23 m	-	82
BCG	Card or History	98	12-23 m	1827	82
BCG	History	16	12-23 m	-	82
DTP1	C or H <12 months	96	12-23 m	1827	82
DTP1	Card	82	12-23 m	-	82
DTP1	Card or History	97	12-23 m	1827	82

Thailand - survey details

DTP1	History	15	12-23 m	-	82
DTP3	C or H <12 months	88	12-23 m	1827	82
DTP3	Card	80	12-23 m	-	82
DTP3	Card or History	90	12-23 m	1827	82
DTP3	History	10	12-23 m	-	82
HepB1	C or H <12 months	93	12-23 m	1827	82
HepB1	Card	82	12-23 m	-	82
HepB1	Card or History	93	12-23 m	1827	82
HepB1	History	11	12-23 m	-	82
HepB3	C or H <12 months	81	12-23 m	1827	82
HepB3	Card	81	12-23 m	-	82
HepB3	Card or History	84	12-23 m	1827	82
HepB3	History	3	12-23 m	-	82
HepBB	C or H <12 months	96	12-23 m	1827	82
HepBB	Card	83	12-23 m	-	82
HepBB	Card or History	96	12-23 m	1827	82
HepBB	History	13	12-23 m	-	82
MCV1	C or H <12 months	92	12-23 m	1827	82
MCV1	Card	81	12-23 m	-	82
MCV1	Card or History	95	12-23 m	1827	82
MCV1	History	14	12-23 m	-	82
Pol1	C or H <12 months	96	12-23 m	1827	82
Pol1	Card	81	12-23 m	-	82
Pol1	Card or History	96	12-23 m	1827	82
Pol1	History	16	12-23 m	-	82
Pol3	C or H <12 months	89	12-23 m	1827	82
Pol3	Card	80	12-23 m	-	82
Pol3	Card or History	91	12-23 m	1827	82
Pol3	History	11	12-23 m	-	82

2007 Immunization Coverage Survey: Thailand 2008

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	100	12-23 m	1800	97
DTP3	Card or History	99	12-23 m	1800	97
HepB3	Card or History	98	12-23 m	1800	97
MCV1	Card or History	98	12-23 m	1800	97
Pol3	Card or History	99	12-23 m	1800	97

2005 Thailand Multiple Indicator Cluster Survey, December 2005 – February 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	98	12-23 m	1895	88
BCG	Card	88	12-23 m	1895	88
BCG	Card or History	98	12-23 m	1895	88
BCG	History	10	12-23 m	1895	88
DTP1	C or H <12 months	98	12-23 m	1895	88
DTP1	Card	89	12-23 m	1895	88
DTP1	Card or History	98	12-23 m	1895	88
DTP1	History	9	12-23 m	1895	88
DTP3	C or H <12 months	92	12-23 m	1895	88
DTP3	Card	89	12-23 m	1895	88
DTP3	Card or History	94	12-23 m	1895	88
DTP3	History	5	12-23 m	1895	88
HepB1	C or H <12 months	98	12-23 m	1895	88
HepB1	Card	89	12-23 m	1895	88
HepB1	Card or History	98	12-23 m	1895	88
HepB1	History	9	12-23 m	1895	88
HepB3	C or H <12 months	92	12-23 m	1895	88
HepB3	Card	88	12-23 m	1895	88
HepB3	Card or History	94	12-23 m	1895	88
HepB3	History	6	12-23 m	1895	88
MCV1	C or H <12 months	92	12-23 m	1895	88
MCV1	Card	86	12-23 m	1895	88
MCV1	Card or History	97	12-23 m	1895	88
MCV1	History	10	12-23 m	1895	88
Pol1	C or H <12 months	98	12-23 m	1895	88
Pol1	Card	88	12-23 m	1895	88
Pol1	Card or History	98	12-23 m	1895	88
Pol1	History	10	12-23 m	1895	88
Pol3	C or H <12 months	92	12-23 m	1895	88
Pol3	Card	88	12-23 m	1895	88
Pol3	Card or History	94	12-23 m	1895	88
Pol3	History	5	12-23 m	1895	88

2002 Immunization Coverage Survey: Thailand 2003

Thailand - survey details

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	100	12-23 m	2520	98
DTP3	Card or History	98	12-23 m	2520	98
HepB3	Card or History	96	12-23 m	2520	98
MCV1	Card or History	96	12-23 m	2520	98
Pol3	Card or History	98	12-23 m	2520	98

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	99	12-23 m	3369	94
DTP1	Card or History	98	12-23 m	3369	94
DTP3	Card or History	96	12-23 m	3369	94
HepB3	Card or History	95	12-23 m	3369	94
MCV1	Card or History	94	12-23 m	3369	94
Pol3	Card or History	97	12-23 m	3369	94

1998 Immunization Coverage Survey: Thailand 1999

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