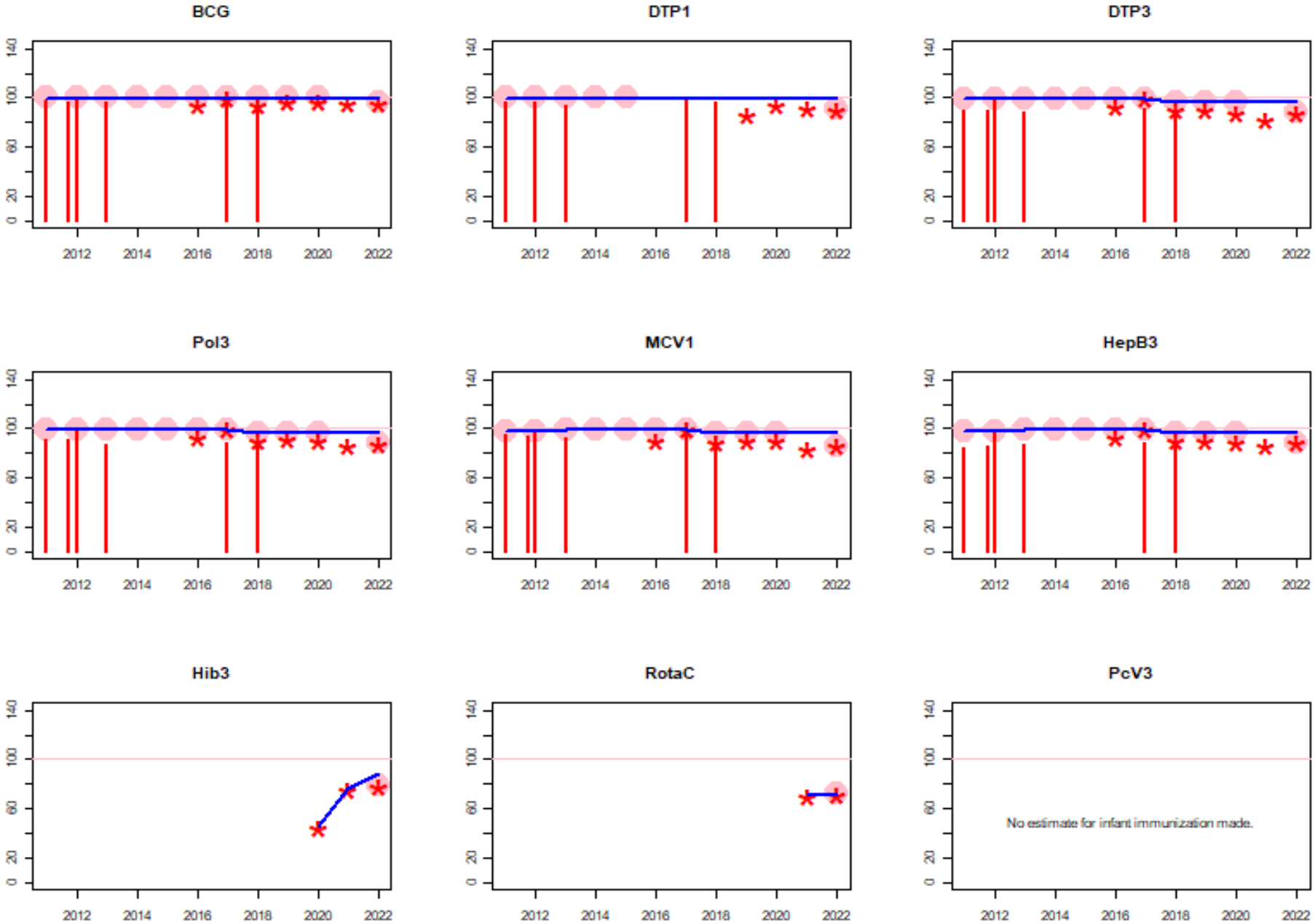

BCG
DTP1
DTP3
Pol3
MCV1
HepB3
Hib3
RotaC
PcV3
No estimate for infant immunization made.
0
20
60
100
140
2012
2014
2016
2018
2020
2022

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. Co verage 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.

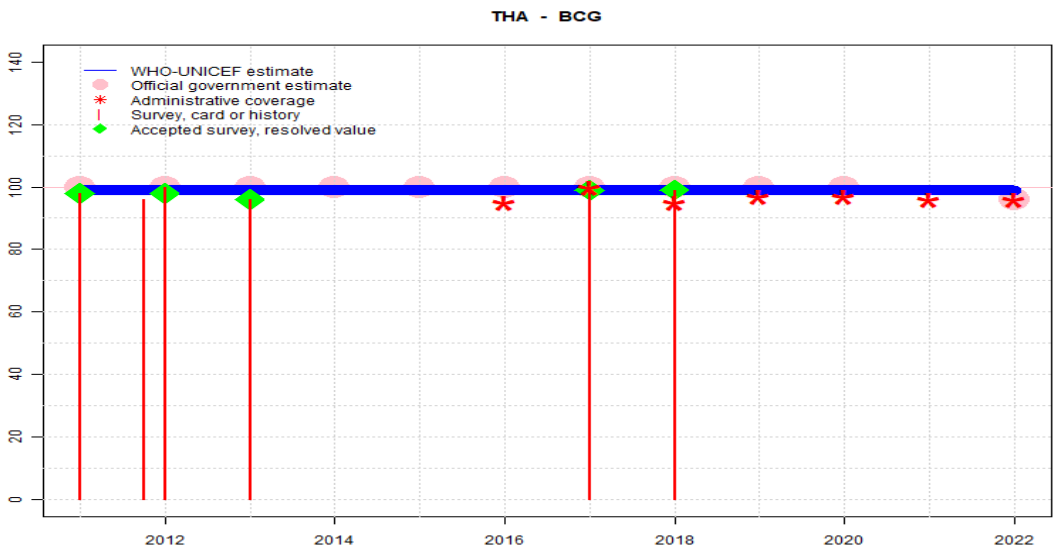
Hib3: percentage of surviving infants who received the 3rd dose of Haemophilus influenzae type b containing vaccine.

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.

Thailand - BCG



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	99	99	99	99	99	99	99	99	99	99	99	99
Estimate GoC	●●	●●	●●	●●	●●	●●	●	●	●	●	●	●
Official	100	100	100	100	100	100	100	100	100	100	NA	96
Administrative	NA	NA	NA	NA	NA	NA	95	100	95	97	97	96	96
Survey	98	*	96	NA	NA	NA	99	99	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: 2022 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:

2022: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-

2021: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. Estimate challenged by: D-

2020: Estimate informed by reported data. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Bangkok seems not to be included in the data reporting system. Estimate challenged by: D-

2019: Estimate informed by reported data. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2018: Estimate informed by reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2017: Estimate informed by reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). Reported official coverage is based on a 2013 cluster coverage survey. Estimate challenged by: D-

2016: Estimate informed by reported data. Reported official coverage is based on a 2013 cluster coverage survey. GoC=R+ S+

2015: Estimate informed by reported data. GoC=R+ S+

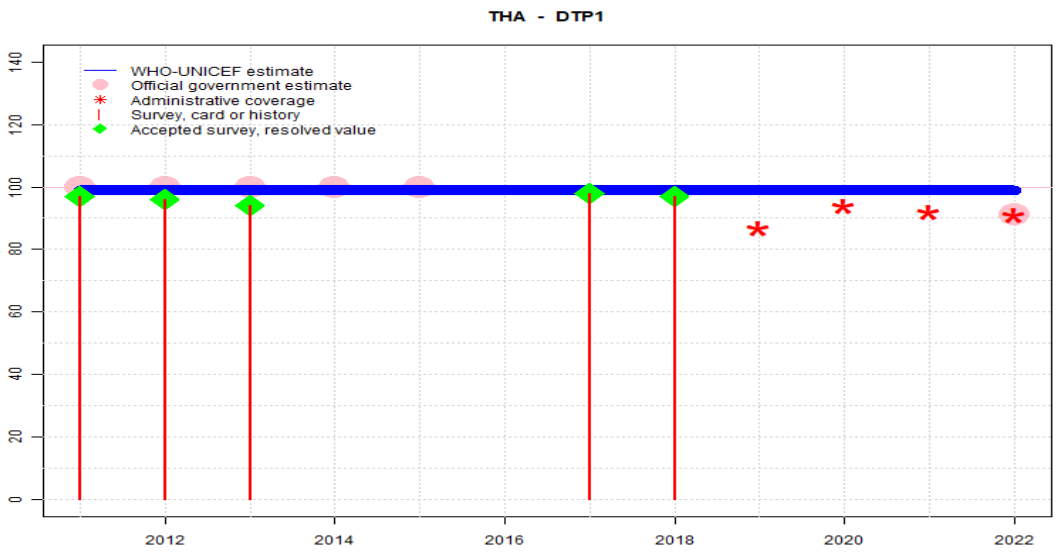
2014: Estimate informed by reported data. GoC=R+ S+

2013: Estimate informed by reported data supported by survey. Survey evidence of 96 percent based on 1 survey(s). GoC=R+ S+

2012: Estimate informed by reported data supported by survey. Survey evidence of 98 percent based on 2 survey(s). GoC=R+ S+

2011: Estimate informed by reported data supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+

Thailand - DTP1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	99	99	99	99	99	99	99	99	99	99	99	99
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●	●	●	●
Official	100	100	100	100	100	NA	NA	NA	NA	NA	NA	91
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	87	94	92	91
Survey	97	96	94	NA	NA	NA	98	97	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: 2022 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:

2022: DTP1 coverage estimated based on DTP3 coverage of 97. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-R-

2021: DTP1 coverage estimated based on DTP3 coverage of 97. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. Estimate challenged by: D-R-

2020: DTP1 coverage estimated based on DTP3 coverage of 97. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Bangkok seems not to be included in the data reporting system. Estimate challenged by: D-R-

2019: DTP1 coverage estimated based on DTP3 coverage of 97. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-R-

2018: DTP1 coverage estimated based on DTP3 coverage of 97. Reported official coverage is based on a 2018 cluster coverage survey. GoC=S+

2017: DTP1 coverage estimated based on DTP3 coverage of 99. Reported official coverage is based on a 2013 cluster coverage survey. GoC=S+

2016: DTP1 coverage estimated based on DTP3 coverage of 99. Reported official coverage is based on a 2013 cluster coverage survey. GoC=S+

2015: Estimate informed by reported data. GoC=R+ S+

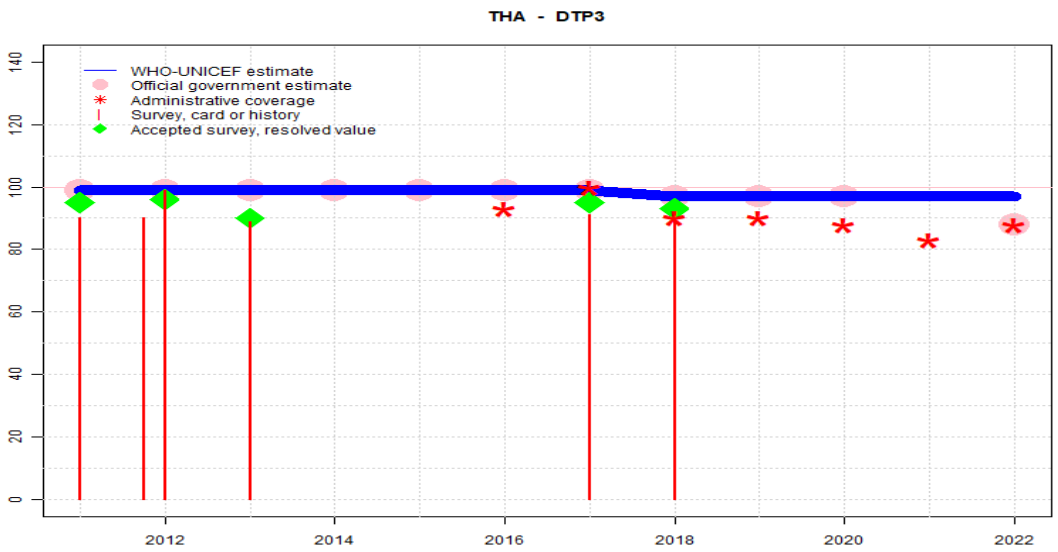
2014: Estimate informed by reported data. GoC=R+ S+

2013: Estimate informed by reported data supported by survey. Survey evidence of 94 percent based on 1 survey(s). GoC=R+ S+

2012: Estimate informed by reported data supported by survey. Survey evidence of 96 percent based on 1 survey(s). GoC=R+ S+

2011: Estimate informed by reported data supported by survey. Survey evidence of 97 percent based on 1 survey(s). GoC=R+ S+

Thailand - DTP3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	99	99	99	99	99	99	99	97	97	97	97	97
Estimate GoC	••	••	••	••	••	••	•	•	•	•	•	•
Official	99	99	99	99	99	99	99	97	97	97	NA	88
Administrative	NA	NA	NA	NA	NA	NA	100	90	90	88	83	88
Survey	90	*	89	NA	NA	NA	91	90	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: 2022 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:

2022: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-

2021: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. Estimate challenged by: D-

2020: Estimate informed by reported data. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Bangkok seems not to be included in the data reporting system. Estimate challenged by: D-

2019: Estimate informed by reported data. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2018: Estimate informed by reported data supported by survey. Survey evidence of 93 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2019 card or history results of 90 percent modifed for recall bias to 93 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 90 percent and 3rd dose card only coverage of 86 percent. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2017: Estimate informed by reported data supported by survey. Survey evidence of 95 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2019 card or history results of 91 percent modifed for recall bias to 95 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 88 percent and 3rd dose card only coverage of 85 percent. Reported official coverage is based on a 2013 cluster coverage survey. Estimate challenged by: D-

2016: Estimate informed by reported data. Reported official coverage is based on a 2013 cluster coverage survey. GoC=R+ S+

2015: Estimate informed by reported data. GoC=R+ S+

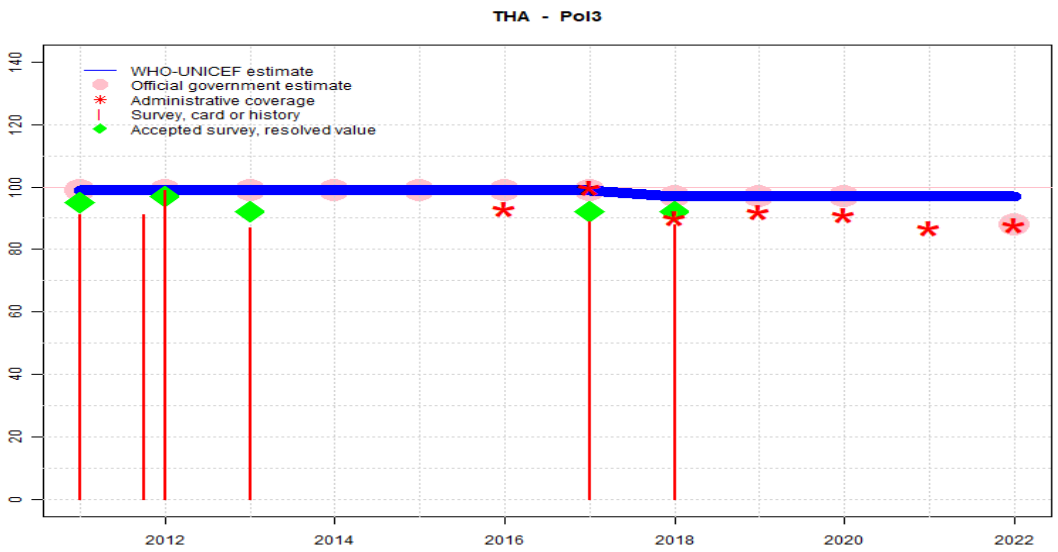
2014: Estimate informed by reported data. GoC=R+ S+

2013: Estimate informed by reported data 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 modifed 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 3rd dose card only coverage of 80 percent. GoC=R+ S+

2012: Estimate informed by reported data 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 modifed 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 3rd dose card only coverage of 82 percent. GoC=R+ S+

2011: Estimate informed by reported data 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 modifed 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 3rd dose card only coverage of 80 percent. GoC=R+ S+

Thailand - Pol3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	99	99	99	99	99	99	99	97	97	97	97	97
Estimate GoC	●●	●●	●●	●●	●●	●●	●	●	●	●	●	●
Official	99	99	99	99	99	99	99	97	97	97	NA	88
Administrative	NA	NA	NA	NA	NA	93	100	90	92	91	87	88
Survey	91	*	87	NA	NA	NA	89	88	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: 2022 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:

2022: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-

2021: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. Estimate challenged by: D-

2020: Estimate informed by reported data. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Bangkok seems not to be included in the data reporting system. Estimate challenged by: D-

2019: Estimate informed by reported data. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2018: Estimate informed by reported data supported by survey. Survey evidence of 92 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2019 card or history results of 88 percent modifed for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 90 percent and 3rd dose card only coverage of 86 percent. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2017: Estimate informed by reported data supported by survey. Survey evidence of 92 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2019 card or history results of 89 percent modifed for recall bias to 92 percent based on 1st dose card or history coverage of 95 percent, 1st dose card only coverage of 88 percent and 3rd dose card only coverage of 85 percent. Reported official coverage is based on a 2013 cluster coverage survey. Estimate challenged by: D-

2016: Estimate informed by reported data. Reported official coverage is based on a 2013 cluster coverage survey. GoC=R+ S+

2015: Estimate informed by reported data. GoC=R+ S+

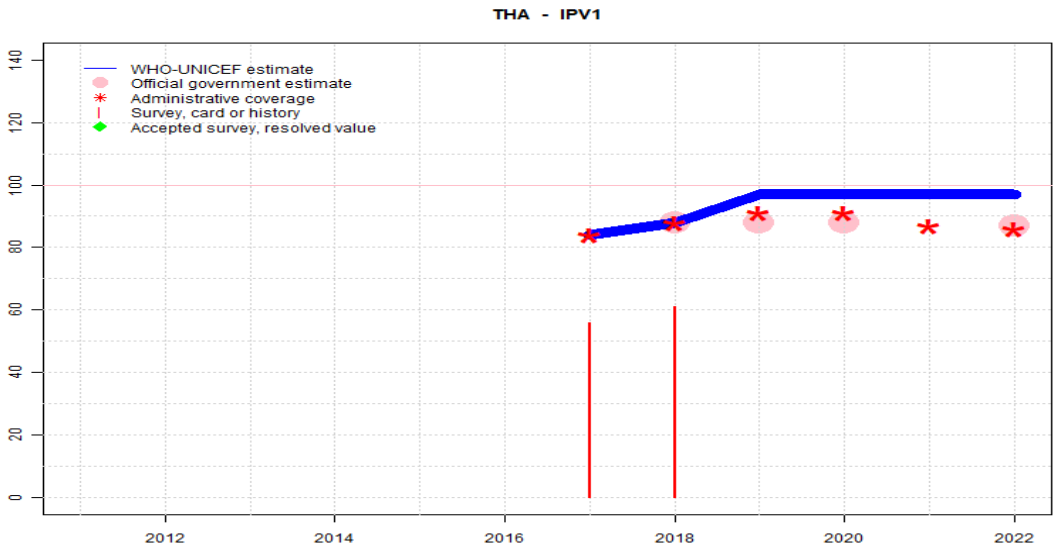
2014: Estimate informed by reported data. GoC=R+ S+

2013: Estimate informed by reported data 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 modifed 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 3rd dose card only coverage of 82 percent. GoC=R+ S+

2012: Estimate informed by reported data 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 modifed 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 3rd dose card only coverage of 84 percent. GoC=R+ S+

2011: Estimate informed by reported data 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 modifed 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 3rd dose card only coverage of 80 percent. GoC=R+ S+

Thailand - IPV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	84	88	97	97	97	97
Estimate GoC	NA	NA	NA	NA	NA	NA	•	•	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	NA	88	88	88	NA	87
Administrative	NA	NA	NA	NA	NA	NA	84	88	91	91	87	86
Survey	NA	NA	NA	NA	NA	NA	56	61	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: 2022 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:

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

2022: Estimate is based on the DTP3 estimated coverage. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-R-

2021: Estimate is based on the DTP3 estimated coverage. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. Estimate challenged by: D-R-

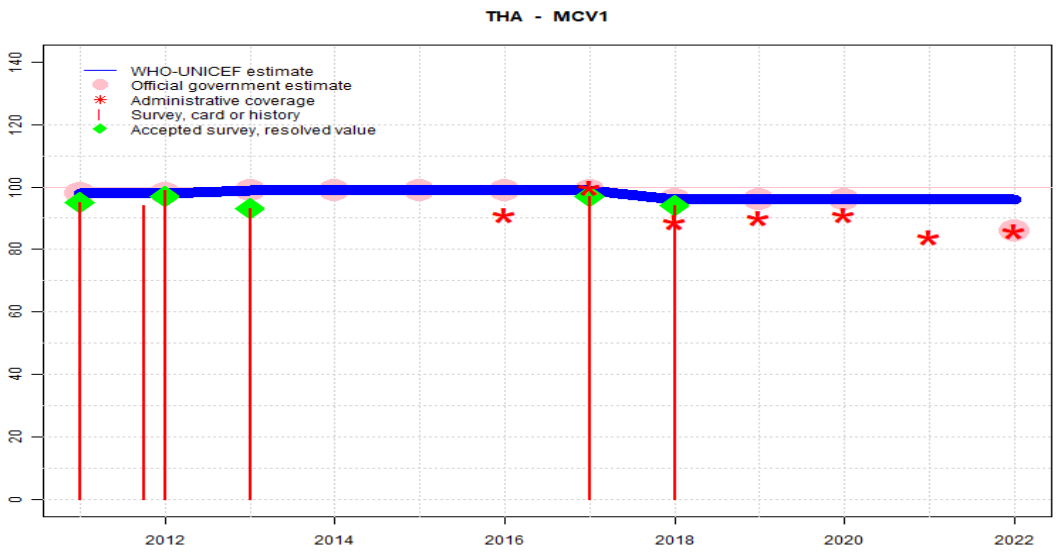
2020: Estimate is based on the DTP3 estimated coverage. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Bangkok seems not to be included in the data reporting system. Estimate challenged by: D-R-

2019: Estimate is based on the DTP3 estimated coverage. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-R-

2018: Estimate informed by reported data during period of introduction. Thailand Multiple Indicator Cluster Survey 2019 results ignored by working group. Survey results inconsistent with other vaccine-doses recommended at the same age.Reported data excluded. . Reported official coverage is based on a 2018 cluster coverage survey. Estimate of 88 percent changed from previous revision value of 95 percent. Estimate challenged by: D-R-

2017: Estimate informed by reported administrative data. Thailand Multiple Indicator Cluster Survey 2019 results ignored by working group. Survey results inconsistent with other vaccine-doses recommended at the same age. Reported official coverage is based on a 2013 cluster coverage survey. IPV introduced in 2015 reporting started in 2017. Estimate of 84 percent changed from previous revision value of 93 percent. Estimate challenged by: D-

Thailand - MCV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	98	98	99	99	99	99	99	96	96	96	96	96
Estimate GoC	●●	●●	●●	●●	●●	●●	●	●	●	●	●	●
Official	98	98	99	99	99	99	99	96	96	96	NA	86
Administrative	NA	NA	NA	NA	NA	NA	100	89	90	91	84	86
Survey	95	*	93	NA	NA	NA	97	94	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: 2022 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:

2022: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-

2021: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. Estimate challenged by: D-

2020: Estimate informed by reported data. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Bangkok seems not to be included in the data reporting system. GoC=Assigned by working group. Consistency with other vaccine doses.

2019: Estimate informed by reported data. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2018: Estimate informed by reported data supported by survey. Survey evidence of 94 percent based on 1 survey(s). Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2017: Estimate informed by reported data supported by survey. Survey evidence of 97 percent based on 1 survey(s). Reported official coverage is based on a 2013 cluster coverage survey. Estimate challenged by: D-

2016: Estimate informed by reported data. Reported official coverage is based on a 2013 cluster coverage survey. GoC=R+ S+

2015: Estimate informed by reported data. GoC=R+ S+

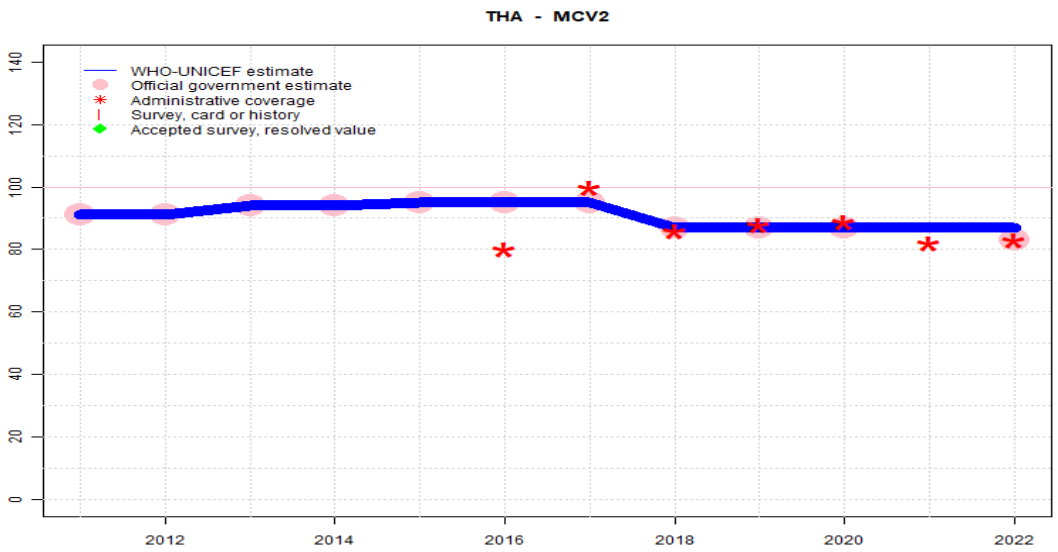
2014: Estimate informed by reported data. GoC=R+ S+

2013: Estimate informed by reported data supported by survey. Survey evidence of 93 percent based on 1 survey(s). GoC=R+ S+

2012: Estimate informed by reported data supported by survey. Survey evidence of 97 percent based on 2 survey(s). GoC=R+ S+

2011: Estimate informed by reported data supported by survey. Survey evidence of 95 percent based on 1 survey(s). GoC=R+ S+

Thailand - MCV2



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	91	91	94	94	95	95	95	87	87	87	87	87
Estimate GoC	●●	●●	●●	●●	●●	●●	●	●	●	●	●	●
Official	91	91	94	94	95	95	95	87	87	87	NA	83
Administrative	NA	NA	NA	NA	NA	80	100	86	88	89	82	83
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: 2022 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:

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

2022: Estimate informed by extrapolation from reported data. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-

2021: Estimate informed by extrapolation from reported data. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. Estimate challenged by: D-

2020: Estimate informed by reported data. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Bangkok seems not to be included in the data reporting system. Estimate challenged by: D-

2019: Estimate informed by reported data. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2018: Estimate informed by reported data. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2017: Estimate informed by reported data. Reported official coverage is based on a 2013 cluster coverage survey. Estimate challenged by: D-

2016: Estimate informed by reported data. Reported official coverage is based on a 2013 cluster coverage survey. GoC=R+

2015: Estimate informed by reported data. GoC=R+

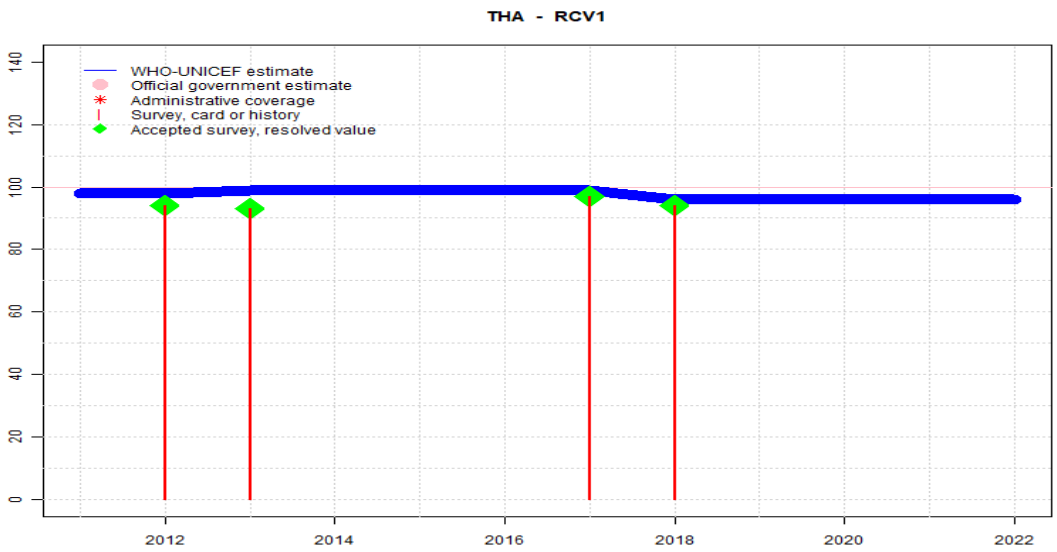
2014: Estimate informed by reported data. GoC=R+

2013: Estimate informed by reported data. GoC=R+

2012: Estimate informed by reported data. GoC=R+

2011: Estimate informed by reported data. GoC=R+

Thailand - RCV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	98	98	99	99	99	99	99	96	96	96	96	96
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	94	93	NA	NA	NA	97	94	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: 2022 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:

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.

2022: Estimate based on estimated MCV1. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-

2021: Estimate based on estimated MCV1. Estimate challenged by: D-

2020: Estimate based on estimated MCV1. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Bangkok seems not to be included in the data reporting system. GoC=Assigned by working group. Consistency with other vaccine doses.

2019: Estimate based on estimated MCV1. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2018: Estimate based on estimated MCV1. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2017: Estimate based on estimated MCV1. Reported official coverage is based on a 2013 cluster coverage survey. Estimate challenged by: D-

2016: Estimate based on estimated MCV1. Reported official coverage is based on a 2013 cluster coverage survey. GoC=R+ S+

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

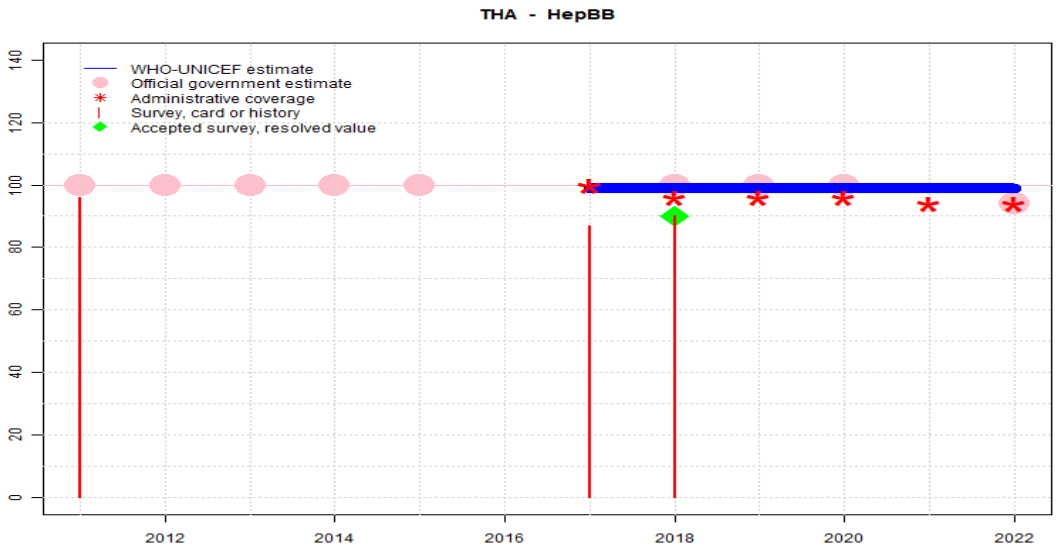
2014: Estimate based on estimated MCV1. GoC=R+ S+

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+

Thailand - HepBB



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	99	99	99	99	99	99
Estimate GoC	NA	NA	NA	NA	NA	NA	•	•	•	•	•	•
Official	100	100	100	100	100	NA	NA	100	100	100	NA	94
Administrative	NA	NA	NA	NA	NA	NA	100	96	96	96	94	94
Survey	96	NA	NA	NA	NA	NA	87	90	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: 2022 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:

2022: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-

2021: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. Estimate challenged by: D-

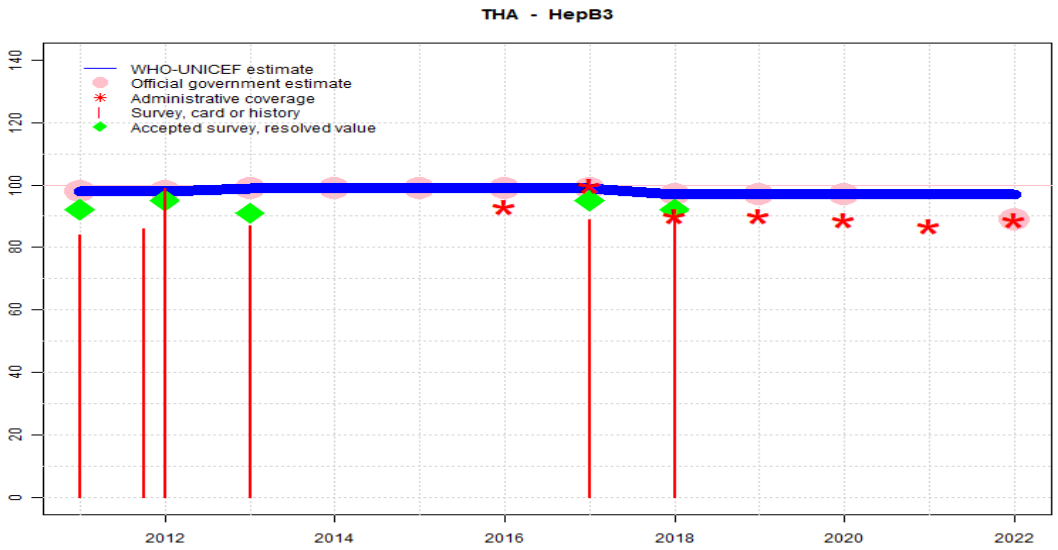
2020: Estimate informed by reported data. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Bangkok seems not to be included in the data reporting system. Estimate challenged by: D-

2019: Estimate informed by reported data. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2018: Estimate informed by reported data supported by survey. Survey evidence of 90 percent based on 1 survey(s). Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2017: Estimate informed by reported data. Thailand Multiple Indicator Cluster Survey 2019 results ignored by working group. Survey results lower than for younger cohort. Reported official coverage is based on a 2013 cluster coverage survey. Reporting of doses delivered during first 24 hours started from 2017. Estimate challenged by: D-

Thailand - HepB3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	98	98	99	99	99	99	99	97	97	97	97	97
Estimate GoC	●●	●●	●●	●●	●●	●●	●	●	●	●	●	●
Official	98	98	99	99	99	99	99	97	97	97	NA	89
Administrative	NA	NA	NA	NA	NA	93	100	90	90	89	87	89
Survey	84	*	87	NA	NA	NA	89	89	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: 2022 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:

2022: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-

2021: Estimate based on extrapolation from data reported by national government. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. Estimate challenged by: D-

2020: Estimate informed by reported data. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Bangkok seems not to be included in the data reporting system. Estimate challenged by: D-

2019: Estimate informed by reported data. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2018: Estimate informed by reported data supported by survey. Survey evidence of 92 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2019 card or history results of 89 percent modifed for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 90 percent and 3rd dose card only coverage of 86 percent. Reported official coverage is based on a 2018 cluster coverage survey. Estimate challenged by: D-

2017: Estimate informed by reported data supported by survey. Survey evidence of 95 percent based on 1 survey(s). Thailand Multiple Indicator Cluster Survey 2019 card or history results of 89 percent modifed for recall bias to 95 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 88 percent and 3rd dose card only coverage of 86 percent. Reported official coverage is based on a 2013 cluster coverage survey. Estimate challenged by: D-

2016: Estimate informed by reported data. Reported official coverage is based on a 2013 cluster coverage survey. GoC=R+ S+

2015: Estimate informed by reported data. GoC=R+ S+

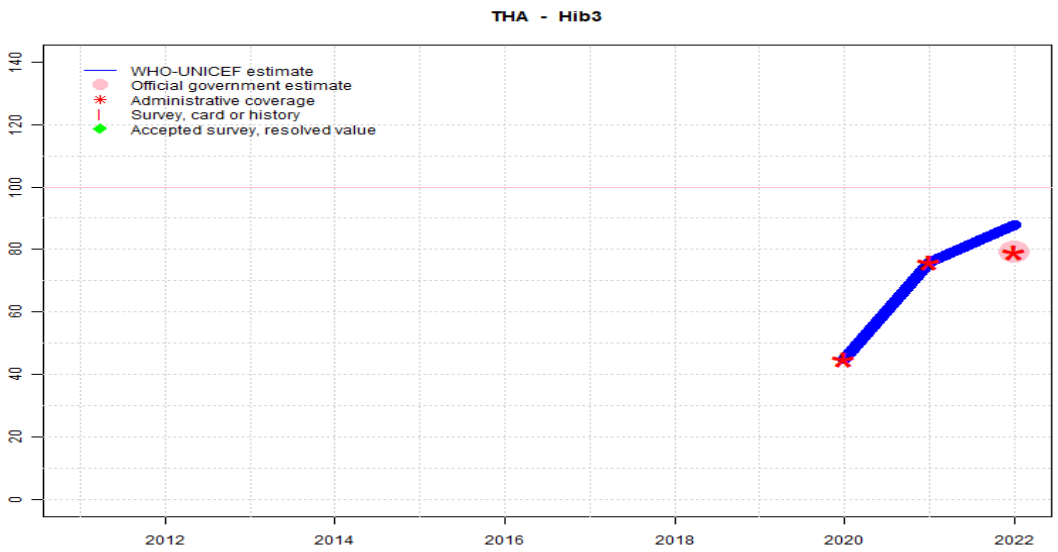
2014: Estimate informed by reported data. GoC=R+ S+

2013: Estimate informed by reported data 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 modifed 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 3rd dose card only coverage of 83 percent. GoC=R+ S+

2012: Estimate informed by reported data 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 modifed 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 3rd dose card only coverage of 84 percent. GoC=R+ S+

2011: Estimate informed by reported data 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 modifed 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 3rd dose card only coverage of 81 percent. GoC=R+ S+

Thailand - Hib3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	45	76	88
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	•	•	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	79
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	45	76	79
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: 2022 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.

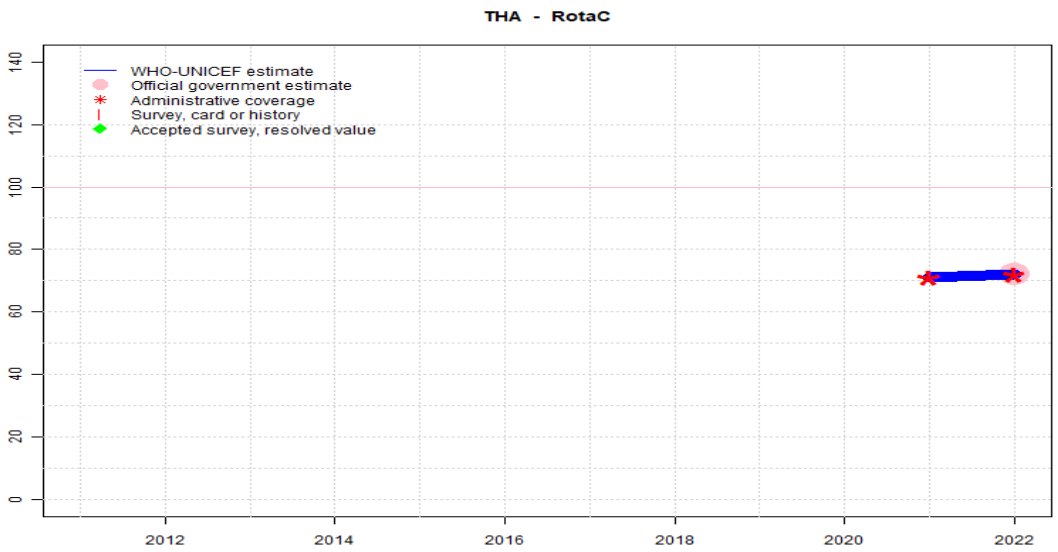
Description:

2022: Estimate based on the relationship between reported DTP3 and Hib3 administrative coverage levels. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-R-

2021: Estimate exceptionally based on reported data following vaccine introduction. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. Estimate based on reported administrative data during introduction period. Estimate challenged by: D-R-

2020: Estimate informed by reported administrative data. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Bangkok seems not to be included in the data reporting system. Hib introduced in June 2019 nationally as DTP-Hib-HepB combination vaccine. Reporting started in 2020. Estimate challenged by: D-

Thailand - RotaC



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	71	72
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	•	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	72
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	71	72
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: 2022 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.

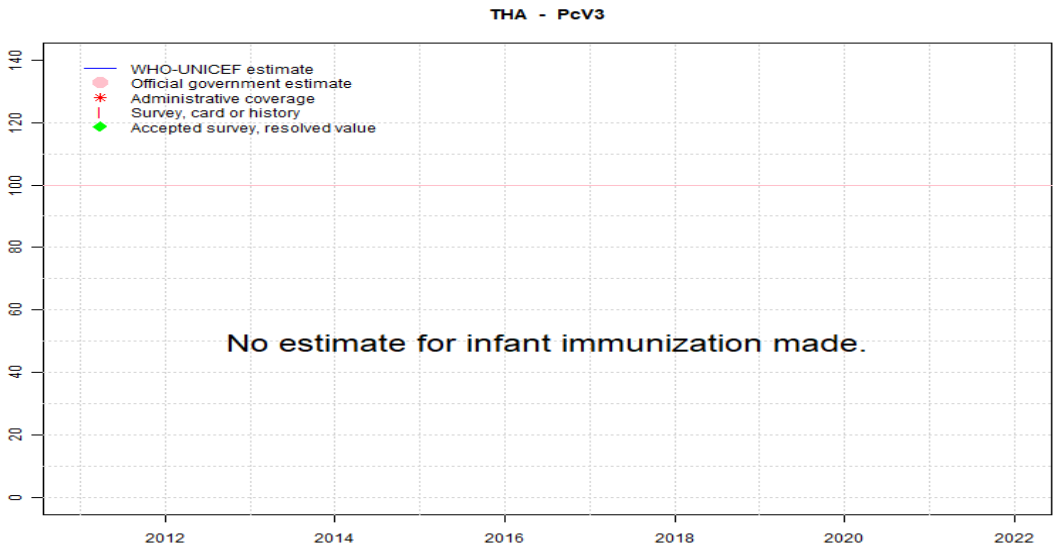
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

2022: Estimate exceptionally based on reported data following vaccine introduction. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. WHO and UNICEF are aware of an ongoing 2022 Multiple Indicator Cluster Survey and await the final results. Estimate challenged by: D-R-

2021: Estimate exceptionally based on reported data following vaccine introduction. Reported data excluded. Estimated coverage levels may overestimate actual coverage levels based on patterns signalling declines in the reported number of doses administered. Reported denominator is likely an underestimate. Country reports that denominator is based on count of children residing in the area of responsibility of each health facility. Data for Bangkok are not included in the data reporting system. Rotavirus vaccine introduced nationally in 2020. Reporting began in 2021. Estimate challenged by: D-R-

Thailand - PcV3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
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: 2022 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

NOTE: A survey to measure vaccination coverage for infants (i.e., children aged 0 to 11 months) will sample children aged 12 to 23 months at the time of survey to capture the youngest annual cohort of children who should have completed the vaccination schedule. Because WUENIC are for infant vaccinations, survey data in this report are presented to reflect the birth year of the youngest survey cohort. For example, results for a survey conducted during December 2020 among children aged 12 to 23 months at the time of the survey reflect the immunization experience of children born in 2019. Depending on the timing of survey field work, results may reflect the immunization experience of children born and vaccinated 1 or 2 years prior to the survey field work.

2018 Thailand Multiple Indicator Cluster Survey 2019

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	98.8	12-23 m	2614	90
BCG	Card	89.6	12-23 m	2614	90
BCG	Card or History	98.8	12-23 m	2614	90
BCG	History	9.1	12-23 m	2614	90
DTP1	C or H <12 months	96.4	12-23 m	2614	90
DTP1	Card	89.7	12-23 m	2614	90
DTP1	Card or History	96.9	12-23 m	2614	90
DTP1	History	7.1	12-23 m	2614	90
DTP3	C or H <12 months	88	12-23 m	2614	90
DTP3	Card	86	12-23 m	2614	90
DTP3	Card or History	89.9	12-23 m	2614	90
DTP3	History	3.9	12-23 m	2614	90
HepB1	C or H <12 months	95.4	12-23 m	2614	90
HepB1	Card	89.7	12-23 m	2614	90
HepB1	Card or History	96.1	12-23 m	2614	90
HepB1	History	6.4	12-23 m	2614	90
HepB3	C or H <12 months	86.8	12-23 m	2614	90
HepB3	Card	86.4	12-23 m	2614	90
HepB3	Card or History	89	12-23 m	2614	90
HepB3	History	2.6	12-23 m	2614	90
HepBB	C or H <12 months	89.6	12-23 m	2614	90
HepBB	Card	89.6	12-23 m	2614	90
HepBB	Card or History	89.6	12-23 m	2614	90
HepBB	History	0	12-23 m	2614	90
IPV1	C or H <12 months	59.3	12-23 m	2614	90
IPV1	Card	54.7	12-23 m	2614	90
IPV1	Card or History	60.9	12-23 m	2614	90
IPV1	History	6.2	12-23 m	2614	90
MCV1	C or H <12 months	89.7	12-23 m	2614	90
MCV1	Card	86.2	12-23 m	2614	90
MCV1	Card or History	93.7	12-23 m	2614	90
MCV1	History	7.5	12-23 m	2614	90
Pol1	C or H <12 months	95.7	12-23 m	2614	90
Pol1	Card	89.7	12-23 m	2614	90
Pol1	Card or History	95.9	12-23 m	2614	90
Pol1	History	6.2	12-23 m	2614	90
Pol3	C or H <12 months	86.4	12-23 m	2614	90
Pol3	Card	86	12-23 m	2614	90
Pol3	Card or History	87.8	12-23 m	2614	90
Pol3	History	1.7	12-23 m	2614	90

2017 Thailand Multiple Indicator Cluster Survey 2019

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	98.4	24-35 m	2752	90
BCG	Card	87	24-35 m	2752	90
BCG	Card or History	98.6	24-35 m	2752	90
BCG	History	11.6	24-35 m	2752	90
DTP1	C or H <12 months	96.6	24-35 m	2752	90
DTP1	Card	87.6	24-35 m	2752	90
DTP1	Card or History	98	24-35 m	2752	90
DTP1	History	10.4	24-35 m	2752	90
DTP3	C or H <12 months	86.5	24-35 m	2752	90
DTP3	Card	85.4	24-35 m	2752	90
DTP3	Card or History	91.4	24-35 m	2752	90
DTP3	History	6	24-35 m	2752	90
HepB1	C or H <12 months	95.6	24-35 m	2752	90
HepB1	Card	87.6	24-35 m	2752	90
HepB1	Card or History	96.9	24-35 m	2752	90
HepB1	History	9.3	24-35 m	2752	90
HepB3	C or H <12 months	83.6	24-35 m	2752	90
HepB3	Card	85.6	24-35 m	2752	90
HepB3	Card or History	89.1	24-35 m	2752	90

HepB3	History	3.5	24-35 m	2752	90
HepBB	C or H <12 months	87	24-35 m	2752	90
HepBB	Card	87	24-35 m	2752	90
HepBB	Card or History	87	24-35 m	2752	90
HepBB	History	0	24-35 m	2752	90
IPV1	C or H <12 months	51.6	24-35 m	2752	90
IPV1	Card	48.1	24-35 m	2752	90
IPV1	Card or History	56.3	24-35 m	2752	90
IPV1	History	8.2	24-35 m	2752	90
MCV1	C or H <12 months	86.8	24-35 m	2752	90
MCV1	Card	86.8	24-35 m	2752	90
MCV1	Card or History	96.8	24-35 m	2752	90
MCV1	History	10	24-35 m	2752	90
Pol1	C or H <12 months	94.1	24-35 m	2752	90
Pol1	Card	87.6	24-35 m	2752	90
Pol1	Card or History	95.4	24-35 m	2752	90
Pol1	History	7.8	24-35 m	2752	90
Pol3	C or H <12 months	83.9	24-35 m	2752	90
Pol3	Card	85.4	24-35 m	2752	90
Pol3	Card or History	88.7	24-35 m	2752	90
Pol3	History	3.3	24-35 m	2752	90

2013 Thailand Multiple Indicator Cluster Survey 2015-2016

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	96.2	12-23 m	2510	86
BCG	Card	85.9	12-23 m	2510	86
BCG	Card or History	96.4	12-23 m	2510	86
DTP1	C or H <12 months	93.9	12-23 m	2510	86
DTP1	Card	83.7	12-23 m	2510	86
DTP1	Card or History	94.2	12-23 m	2510	86
DTP3	C or H <12 months	87.6	12-23 m	2510	86
DTP3	Card	80.1	12-23 m	2510	86
DTP3	Card or History	89	12-23 m	2510	86
HepB1	C or H <12 months	93.8	12-23 m	2510	86
HepB1	Card	85.8	12-23 m	2510	86
HepB1	Card or History	94.1	12-23 m	2510	86
HepB3	C or H <12 months	84.3	12-23 m	2510	86
HepB3	Card	83	12-23 m	2510	86
HepB3	Card or History	86.6	12-23 m	2510	86
MCV1	C or H <12 months	89	12-23 m	2510	86
MCV1	Card	82.6	12-23 m	2510	86
MCV1	Card or History	92.9	12-23 m	2510	86
Pol1	C or H <12 months	95.5	12-23 m	2510	86
Pol1	Card	85.6	12-23 m	2510	86
Pol1	Card or History	95.8	12-23 m	2510	86
Pol3	C or H <12 months	85.8	12-23 m	2510	86
Pol3	Card	82.4	12-23 m	2510	86
Pol3	Card or History	86.9	12-23 m	2510	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	99.4	12-23 m	2700	-
HepB3	Card or History	99.4	12-23 m	2700	-
MCV1	Card or History	98.7	12-23 m	2700	-
Pol3	Card or History	99.4	12-23 m	2700	-

2012 Thailand Multiple Indicator Cluster Survey 2015-2016

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	96.1	24-35 m	2550	86
BCG	Card	85.1	24-35 m	2550	86
BCG	Card or History	96.3	24-35 m	2550	86
DTP1	C or H <12 months	94.2	24-35 m	2550	86
DTP1	Card	85.5	24-35 m	2550	86
DTP1	Card or History	96.3	24-35 m	2550	86
DTP3	C or H <12 months	86.6	24-35 m	2550	86
DTP3	Card	81.9	24-35 m	2550	86
DTP3	Card or History	90.4	24-35 m	2550	86
HepB1	C or H <12 months	92.5	24-35 m	2550	86
HepB1	Card	85.8	24-35 m	2550	86
HepB1	Card or History	93.4	24-35 m	2550	86
HepB3	C or H <12 months	80.2	24-35 m	2550	86
HepB3	Card	83.7	24-35 m	2550	86

HepB3	Card or History	85.9	24-35 m	2550	86
MCV1	C or H <12 months	85.1	24-35 m	2550	86
MCV1	Card	83.5	24-35 m	2550	86
MCV1	Card or History	93.9	24-35 m	2550	86
Pol1	C or H <12 months	95.1	24-35 m	2550	86
Pol1	Card	85.5	24-35 m	2550	86
Pol1	Card or History	96.2	24-35 m	2550	86
Pol3	C or H <12 months	86.2	24-35 m	2550	86
Pol3	Card	83.5	24-35 m	2550	86
Pol3	Card or History	90.6	24-35 m	2550	86

2011 Thailand Multiple Indicator Cluster Survey 2012

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	97.5	12-23 m	1827	82
BCG	Card	82	12-23 m	-	82
BCG	Card or History	97.5	12-23 m	1827	82
BCG	History	15.5	12-23 m	-	82
DTP1	C or H <12 months	96.3	12-23 m	1827	82
DTP1	Card	81.7	12-23 m	-	82
DTP1	Card or History	96.7	12-23 m	1827	82
DTP1	History	15	12-23 m	-	82
DTP3	C or H <12 months	87.9	12-23 m	1827	82
DTP3	Card	80.5	12-23 m	-	82
DTP3	Card or History	89.9	12-23 m	1827	82
DTP3	History	9.5	12-23 m	-	82
HepB1	C or H <12 months	92.7	12-23 m	1827	82
HepB1	Card	81.8	12-23 m	-	82
HepB1	Card or History	92.8	12-23 m	1827	82
HepB1	History	11	12-23 m	-	82
HepB3	C or H <12 months	80.7	12-23 m	1827	82
HepB3	Card	80.8	12-23 m	-	82
HepB3	Card or History	83.6	12-23 m	1827	82
HepB3	History	2.8	12-23 m	-	82
HepBB	C or H <12 months	95.5	12-23 m	1827	82
HepBB	Card	82.8	12-23 m	-	82
HepBB	Card or History	95.5	12-23 m	1827	82
HepBB	History	12.6	12-23 m	-	82
MCV1	C or H <12 months	91.9	12-23 m	1827	82
MCV1	Card	80.8	12-23 m	-	82
MCV1	Card or History	95.3	12-23 m	1827	82
MCV1	History	14.5	12-23 m	-	82
Pol1	C or H <12 months	96.3	12-23 m	1827	82
Pol1	Card	80.8	12-23 m	-	82
Pol1	Card or History	96.4	12-23 m	1827	82
Pol1	History	15.6	12-23 m	-	82
Pol3	C or H <12 months	89	12-23 m	1827	82
Pol3	Card	79.7	12-23 m	-	82
Pol3	Card or History	90.9	12-23 m	1827	82
Pol3	History	11.2	12-23 m	-	82

2007 Immunization Coverage Survey: Thailand 2008

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	99.9	12-23 m	1800	97
DTP3	Card or History	98.7	12-23 m	1800	97
HepB3	Card or History	98.3	12-23 m	1800	97
MCV1	Card or History	98.1	12-23 m	1800	97
Pol3	Card or History	98.7	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	98.1	12-23 m	1895	88
BCG	Card	88.5	12-23 m	1895	88
BCG	Card or History	98.2	12-23 m	1895	88
BCG	History	9.7	12-23 m	1895	88
DTP1	C or H <12 months	98	12-23 m	1895	88
DTP1	Card	89.2	12-23 m	1895	88
DTP1	Card or History	98.4	12-23 m	1895	88
DTP1	History	9.2	12-23 m	1895	88
DTP3	C or H <12 months	92.3	12-23 m	1895	88
DTP3	Card	89.1	12-23 m	1895	88
DTP3	Card or History	94.4	12-23 m	1895	88
DTP3	History	5.4	12-23 m	1895	88
HepB1	C or H <12 months	98.3	12-23 m	1895	88

HepB1	Card	89	12-23 m	1895	88
HepB1	Card or History	98.4	12-23 m	1895	88
HepB1	History	9.4	12-23 m	1895	88
HepB3	C or H <12 months	91.6	12-23 m	1895	88
HepB3	Card	88.3	12-23 m	1895	88
HepB3	Card or History	94.4	12-23 m	1895	88
HepB3	History	6.1	12-23 m	1895	88
MCV1	C or H <12 months	92.1	12-23 m	1895	88
MCV1	Card	86.5	12-23 m	1895	88
MCV1	Card or History	96.9	12-23 m	1895	88
MCV1	History	10.4	12-23 m	1895	88
Pol1	C or H <12 months	97.7	12-23 m	1895	88
Pol1	Card	88.5	12-23 m	1895	88
Pol1	Card or History	98.1	12-23 m	1895	88
Pol1	History	9.6	12-23 m	1895	88
Pol3	C or H <12 months	91.6	12-23 m	1895	88
Pol3	Card	88.3	12-23 m	1895	88
Pol3	Card or History	93.7	12-23 m	1895	88
Pol3	History	5.4	12-23 m	1895	88

2002 Immunization Coverage Survey: Thailand 2003

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	99.5	12-23 m	2520	98
DTP3	Card or History	97.6	12-23 m	2520	98
HepB3	Card or History	96	12-23 m	2520	98
MCV1	Card or History	96.1	12-23 m	2520	98
Pol3	Card or History	97.6	12-23 m	2520	98

1998 Immunization Coverage Survey: Thailand 1999

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	98.7	12-23 m	3369	94
DTP1	Card or History	98.5	12-23 m	3369	94
DTP3	Card or History	96.5	12-23 m	3369	94
HepB3	Card or History	95.4	12-23 m	3369	94
MCV1	Card or History	94.2	12-23 m	3369	94
Pol3	Card or History	96.6	12-23 m	3369	94

Thailand - survey details

Further information and estimates for previous years are available at:
https://data.unicef.org/topic/child-health/immunization/
https://immunizationdata.who.int/listing.html