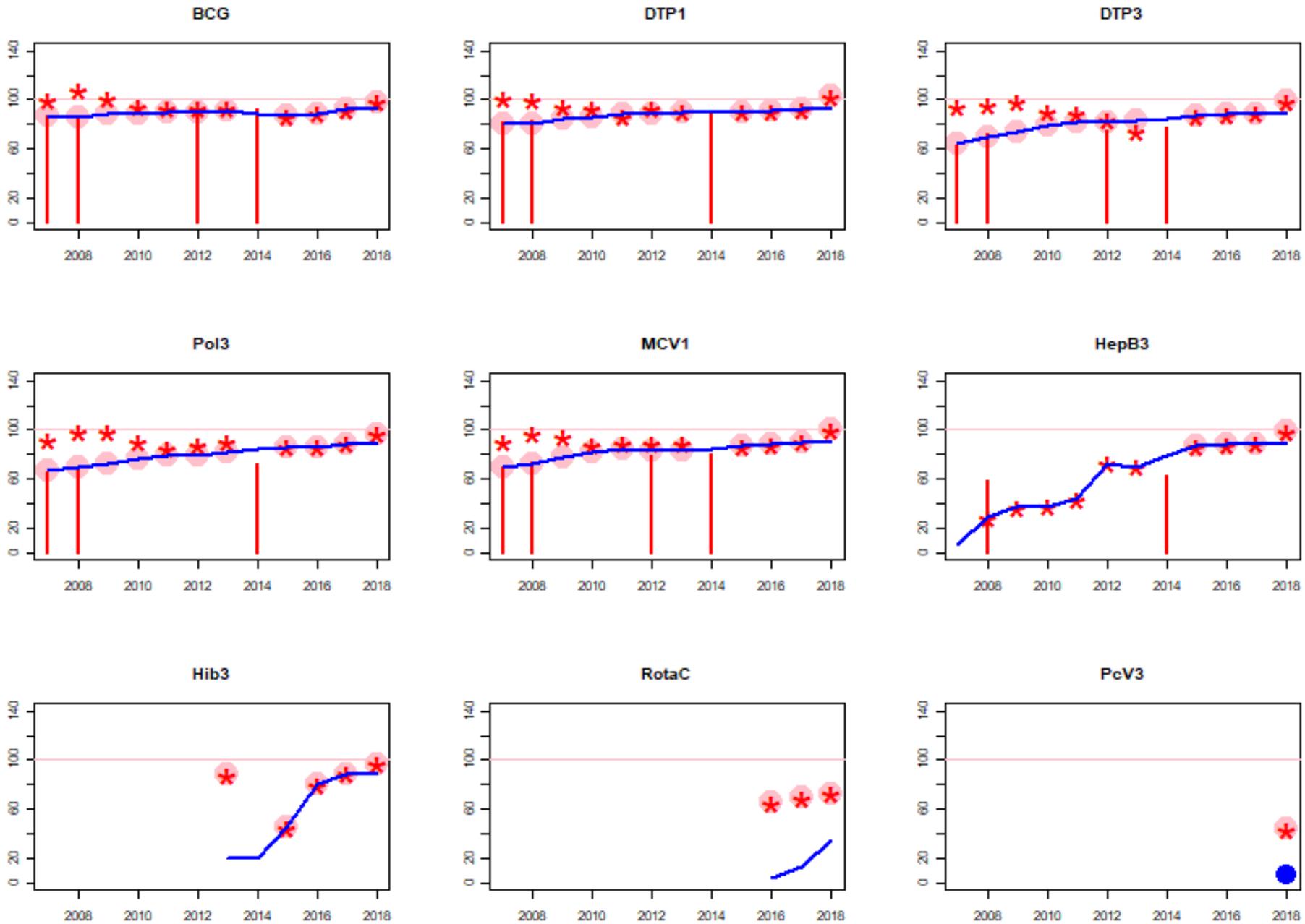


India: WHO and UNICEF estimates of immunization coverage: 2018 revision



**BACKGROUND NOTE:** Each year WHO and UNICEF jointly review reports submitted by Member States regarding national immunization coverage, finalized survey reports as well as data from the published and grey literature. Based on these data, with due consideration to potential biases and the views of local experts, WHO and UNICEF attempt to distinguish between situations where the available empirical data accurately reflect immunization system performance and those where the data are likely to be compromised and present a misleading view of immunization coverage while jointly estimating the most likely coverage levels for each country.

WHO and UNICEF estimates are country-specific; that is to say, each country's data are reviewed individually, and data are not borrowed from other countries in the absence of data. Estimates are not based on ad hoc adjustments to reported data; in some instances empirical data are available from a single source, usually the nationally reported coverage data. In cases where no data are available for a given country/vaccine/year combination, data are considered from earlier and later years and interpolated to estimate coverage for the missing year(s). In cases where data sources are mixed and show large variation, an attempt is made to identify the most likely estimate with consideration of the possible biases in available data. For methods see:

\*Burton et al. 2009. WHO and UNICEF estimates of national infant immunization coverage: methods and processes.

\*Burton et al. 2012. A formal representation of the WHO and UNICEF estimates of national immunization coverage: a computational logic approach.

\*Brown et al. 2013. An introduction to the grade of confidence used to characterize uncertainty around the WHO and UNICEF estimates of national immunization coverage.

## DATA SOURCES.

**ADMINISTRATIVE coverage:** Reported by national authorities and based on aggregated administrative reports from health service providers on the number of vaccinations administered during a given period (numerator data) and reported target population data (denominator data). May be biased by inaccurate numerator and/or denominator data.

**OFFICIAL coverage:** Estimated coverage reported by national authorities that reflects their assessment of the most likely coverage based on any combination of administrative coverage, survey-based estimates or other data sources or adjustments. Approaches to determine OFFICIAL coverage may differ across countries.

**SURVEY coverage:** Based on estimated coverage from population-based household surveys among children aged 12-23 months or 24-35 months following a review of survey methods and results. Information is based on the combination of vaccination history from documented evidence or caregiver recall. Survey results are considered for the appropriate birth cohort based on the period of data collection.

## ABBREVIATIONS

**BCG:** percentage of births who received one dose of Bacillus Calmette Guerin vaccine.

**DTP1 / DTP3:** percentage of surviving infants who received the 1st / 3rd dose, respectively, of diphtheria and tetanus toxoid with pertussis containing vaccine.

**Pol3:** percentage of surviving infants who received the 3rd dose of polio containing vaccine. May be either oral or inactivated polio vaccine.

**IPV1:** percentage of surviving infants who received at least one dose of inactivated polio vaccine. In countries utilizing an immunization schedule recommending either (i) a primary series of three doses of oral polio vaccine (OPV) plus at least one dose of IPV where OPV is included in routine

immunization and/or campaign or (ii) a sequential schedule of IPV followed by OPV, WHO and UNICEF estimates for IPV1 reflect coverage with at least one routine dose of IPV among infants <1 year of age among countries. For countries utilizing IPV containing vaccine use only, i.e., no recommended dose of OPV, the WHO and UNICEF estimate for IPV1 corresponds to coverage for the 1st dose of IPV.

Production of IPV coverage estimates, which begins in 2015, results in no change of the estimated coverage levels for the 3rd dose of polio (Pol3). For countries recommending routine immunization with a primary series of three doses of IPV alone, WHO and UNICEF estimated Pol3 coverage is equivalent to estimated coverage with three doses of IPV. For countries with a sequential schedule, estimated Pol3 coverage is based on that for the 3rd dose of polio vaccine regardless of vaccine type.

**MCV1:** percentage of surviving infants who received the 1st dose of measles containing vaccine. In countries where the national schedule recommends the 1st dose of MCV at 12 months or later based on the epidemiology of disease in the country, coverage estimates reflect the percentage of children who received the 1st dose of MCV as recommended.

**MCV2:** percentage of children who received the 2nd dose of measles containing vaccine according to the nationally recommended schedule.

**RCV1:** percentage of surviving infants who received the 1st dose of rubella containing vaccine. Coverage estimates are based on WHO and UNICEF estimates of coverage for the dose of measles containing vaccine that corresponds to the first measles-rubella combination vaccine. Nationally reported coverage of RCV is not taken into consideration nor are the data represented in the accompanying graph and data table.

**HepBB:** percentage of births which received a dose of hepatitis B vaccine within 24 hours of delivery. Estimates of hepatitis B birth dose coverage are produced only for countries with a universal birth dose policy. Estimates are not produced for countries that recommend a birth dose to infants born to HepB virus-infected mothers only or where there is insufficient information to determine whether vaccination is within 24 hours of birth.

**HepB3:** percentage of surviving infants who received the 3rd dose of hepatitis B containing vaccine following the birth dose.

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

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

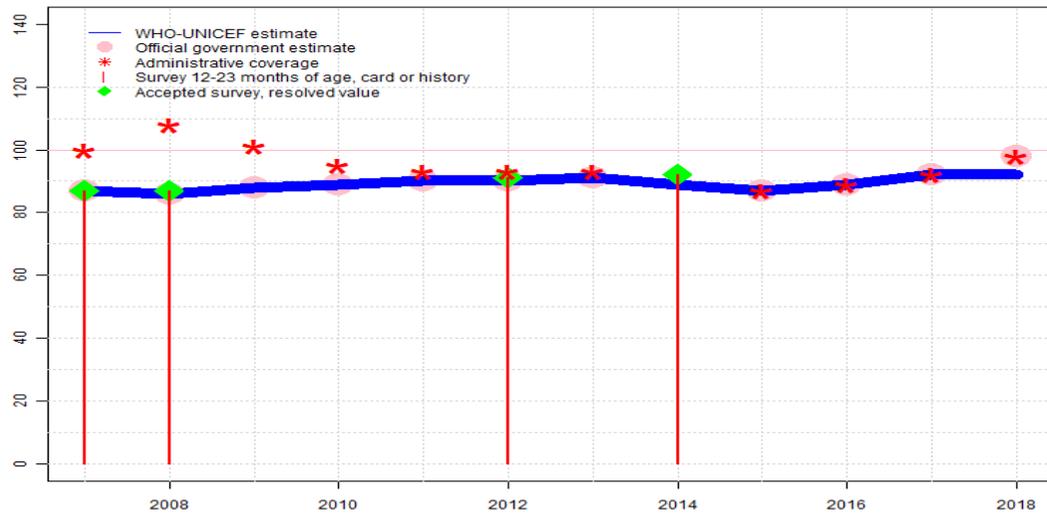
**PcV3:** percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect the percentage of surviving infants who received two doses of PcV prior to the 1st birthday.

**YFV:** percentage of surviving infants who received one dose of yellow fever vaccine in countries where YFV is part of the national immunization schedule for children or is recommended in at risk areas; coverage estimates are annualized for the entire cohort of surviving infants.

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# India - BCG

IND - BCG



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	87	86	88	89	90	90	91	89	87	89	92	92
Estimate GoC	●●●	●	●●●	●●●	●●●	●●●	●●●	●●	●●●	●●●	●●	●
Official	87	86	88	89	90	90	91	NA	87	89	92	98
Administrative	100	108	101	95	93	93	93	NA	87	89	92	98
Survey	87	87	NA	NA	NA	91	NA	92	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

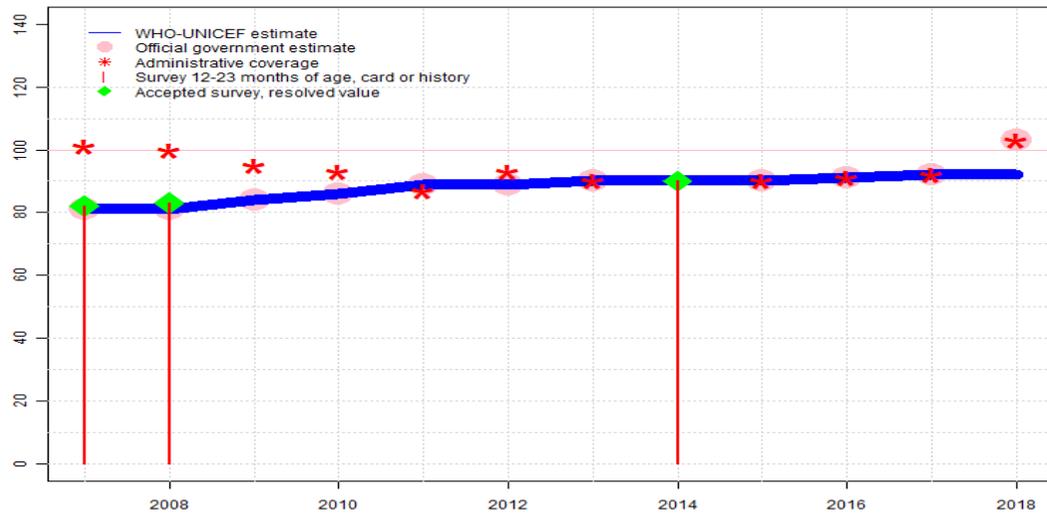
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2018: Estimate based on extrapolation from data reported by national government. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. GoC=Assigned by working group. No accepted empirical data.
- 2017: Estimate based on coverage reported by national government. Estimate of 92 percent changed from previous revision value of 91 percent. GoC=R+ D+
- 2016: Estimate based on coverage reported by national government. The reporting cycle for the Government of India is from April 1 through March 31. Reported data for April-December 2015 are provisional. Results from the National Family Health Survey 2015-16 Fact Sheet suggests coverage of 93 percent. GoC=R+ S+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2014: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). During May 2015, the Government of India conducted a review of state-level administrative and survey-based coverage data to derive a revised time series of official coverage estimates from 1998 through 2013. WHO and UNICEF are aware of recent state-level surveys conducted in high-risk states as well as on-going routine coverage monitoring. GoC=S+
- 2013: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 91 percent based on 1 survey(s). GoC=R+ S+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2009: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government supported by survey. Survey evidence of 87 percent based on 1 survey(s). Estimate challenged by: D-
- 2007: Estimate based on coverage reported by national government supported by survey. Survey evidence of 87 percent based on 1 survey(s). GoC=R+ S+ D+

# India - DTP1

IND - DTP1



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	81	81	84	86	89	89	90	90	90	91	92	92
Estimate GoC	••	•	•	•	••	••	••	••	•••	•••	••	•
Official	81	81	84	86	89	89	90	NA	90	91	92	103
Administrative	101	100	95	93	87	93	90	NA	90	91	92	103
Survey	82	83	NA	NA	NA	NA	NA	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: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

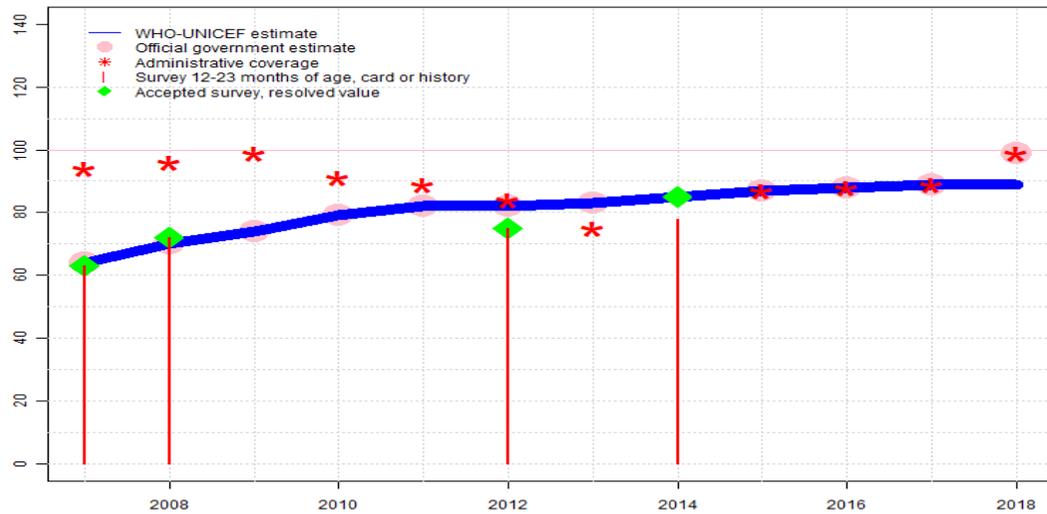
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2018: Estimate based on extrapolation from data reported by national government. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. Reported data excluded because 103 percent greater than 100 percent. Reported data excluded due to sudden change in coverage from 92 level to 103 percent. GoC=Assigned by working group. No accepted empirical data.
- 2017: Estimate based on coverage reported by national government. Estimate of 92 percent changed from previous revision value of 91 percent. GoC=R+ D+
- 2016: Estimate based on coverage reported by national government. The reporting cycle for the Government of India is from April 1 through March 31. Reported data for April-December 2015 are provisional. GoC=R+ S+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2014: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 90 percent based on 1 survey(s). During 2014, national immunization schedule included DTP as well as DTP-HepB-Hib. DTP-HepB-Hib combination vaccine introduced during 2013. During May 2015, the Government of India conducted a review of state-level administrative and survey-based coverage data to derive a revised time series of official coverage estimates from 1998 through 2013. WHO and UNICEF are aware of recent state-level surveys conducted in high-risk states as well as on-going routine coverage monitoring. GoC=S+
- 2013: Estimate based on coverage reported by national government. GoC=Assigned by working group. Estimate is supported by D+
- 2012: Estimate based on coverage reported by national government. GoC=Assigned by working group. Estimate is supported by D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ D+
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2008: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). Stock out reported however insufficient data to reflect impact in the estimate. Estimate challenged by: D-
- 2007: Estimate based on coverage reported by national government supported by survey. Survey evidence of 82 percent based on 1 survey(s). GoC=R+ S+

# India - DTP3

IND - DTP3



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	64	70	74	79	82	82	83	85	87	88	89	89
Estimate GoC	•	•	•	•	•••	•••	•••	••	•••	•••	••	•
Official	64	70	74	79	82	82	83	NA	87	88	89	99
Administrative	94	96	99	91	89	84	75	NA	87	88	89	99
Survey	63	72	NA	NA	NA	75	NA	78	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

2018: Estimate based on extrapolation from data reported by national government. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. GoC=R+ S+ D+

2017: Estimate based on coverage reported by national government. Estimate of 89 percent changed from previous revision value of 88 percent. GoC=R+ D+

2016: Estimate based on coverage reported by national government. The reporting cycle for the Government of India is from April 1 through March 31. Reported data for April-December 2015 are provisional. Results from the National Family Health Survey 2015-16 Fact Sheet suggests coverage of 78 percent. GoC=R+ S+ D+

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

2014: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 85 percent based on 1 survey(s). India National Family Health Survey 2015-16 card or history results of 78 percent modified for recall bias to 85 percent based on 1st dose card or history coverage of 90 percent, 1st dose card only coverage of 97 percent and 3rd dose card only coverage of 92 percent. During 2014, national immunization schedule included DTP as well as DTP-HepB-Hib. DTP-HepB-Hib combination vaccine introduced during 2013. During May 2015, the Government of India conducted a review of state-level administrative and survey-based coverage data to derive a revised time series of official coverage estimates from 1998 through 2013. WHO and UNICEF are aware of recent state-level surveys conducted in high-risk states as well as on-going routine coverage monitoring. GoC=S+

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

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 75 percent based on 1 survey(s). GoC=R+ S+ D+

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

2010: Estimate based on coverage reported by national government. Estimate challenged by: D-  
2009: Estimate based on coverage reported by national government. Estimate challenged by: D-S-

2008: Estimate based on coverage reported by national government supported by survey. Survey evidence of 72 percent based on 1 survey(s). Stock out reported however insufficient data to reflect impact in the estimate. Estimate challenged by: D-

2007: Estimate based on coverage reported by national government supported by survey. Survey

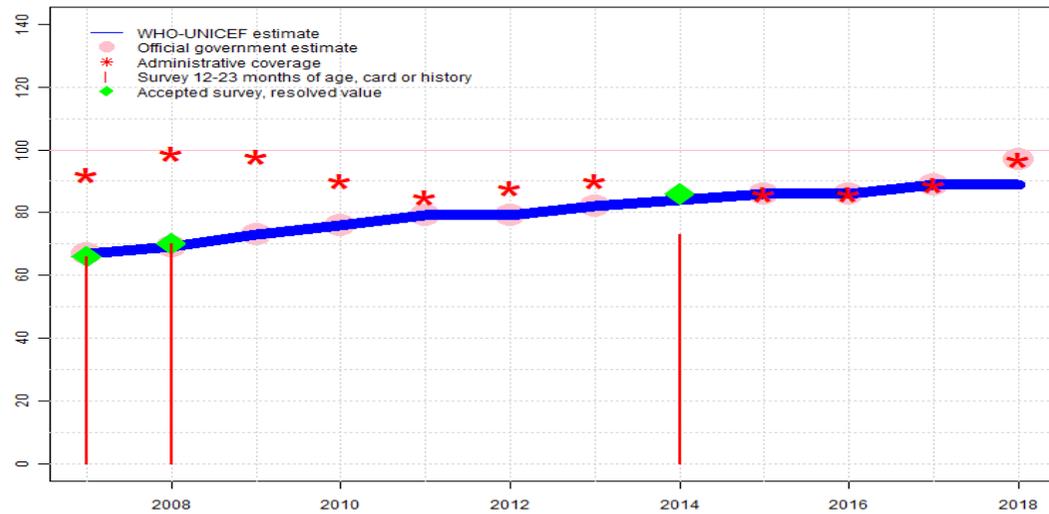
# India - DTP3

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evidence of 63 percent based on 1 survey(s). Estimate challenged by: D-

# India - Pol3

IND - Pol3



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	67	69	73	76	79	79	82	84	86	86	89	89
Estimate GoC	•	•	•	•	••	•	••	•••	•••	•••	••	•
Official	67	69	73	76	79	79	82	NA	86	86	89	97
Administrative	92	99	98	90	85	88	90	NA	86	86	89	97
Survey	66	70	NA	NA	NA	NA	NA	73	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

2018: Estimate based on extrapolation from data reported by national government. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. GoC=Assigned by working group. No accepted empirical data.

2017: Estimate based on coverage reported by national government. Estimate of 89 percent changed from previous revision value of 88 percent. GoC=R+ D+

2016: Estimate based on coverage reported by national government. The reporting cycle for the Government of India is from April 1 through March 31. Reported data for April-December 2015 are provisional. Results from the National Family Health Survey 2015-16 Fact Sheet suggests coverage of 73 percent. GoC=R+ S+ D+

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

2014: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 86 percent based on 1 survey(s). India National Family Health Survey 2015-16 card or history results of 73 percent modified for recall bias to 86 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 98 percent and 3rd dose card only coverage of 93 percent. During May 2015, the Government of India conducted a review of state-level administrative and survey-based coverage data to derive a revised time series of official coverage estimates from 1998 through 2013. WHO and UNICEF are aware of recent state-level surveys conducted in high-risk states as well as on-going routine coverage monitoring. GoC=S+

2013: Estimate based on coverage reported by national government. Estimate challenged by: D-

2012: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2010: Estimate based on coverage reported by national government. Estimate challenged by: D-

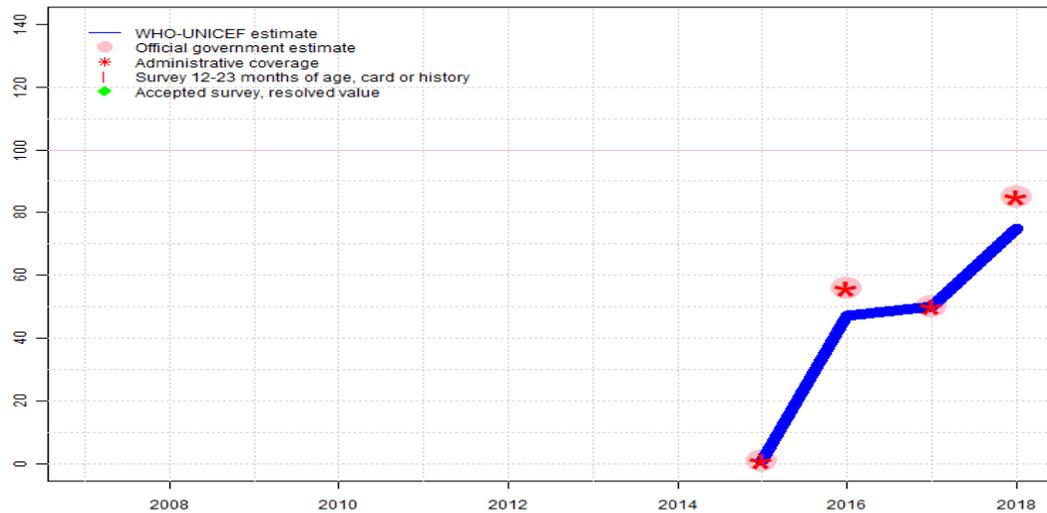
2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

2008: Estimate based on coverage reported by national government supported by survey. Survey evidence of 70 percent based on 1 survey(s). Estimate challenged by: D-

2007: Estimate based on coverage reported by national government supported by survey. Survey evidence of 66 percent based on 1 survey(s). Estimate challenged by: D-

# India - IPV1

IND - IPV1



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	1	47	50	75							
Estimate GoC	NA	••	•	••	•							
Official	NA	1	56	50	85							
Administrative	NA	1	56	50	85							
Survey	NA											

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

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

2018: Reported data reflect the second dose of fractional IPV. Estimate is based on estimated DTP3 coverage adjusted for the difference in reported doses administered for DTP3 and IPV. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. Reported data excluded due to sudden change in coverage from 50 level to 85 percent. GoC=Assigned by working group. No accepted empirical data.

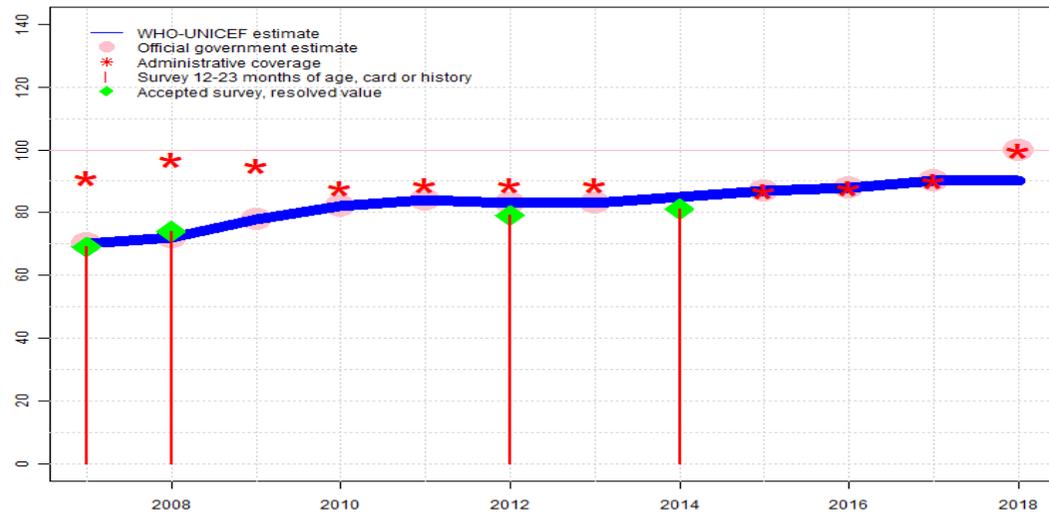
2017: Estimate based on coverage reported by national government. Estimate of 50 percent changed from previous revision value of 45 percent. GoC=R+ D+

2016: Programme reports 56 percent coverage achieved in 85 percent of the national target population. Estimate is based on annualized coverage in the national target population. Programme is delivering fractional doses of IPV. The reporting cycle for the Government of India is from April 1 through March 31. Reported data for April-December 2015 are provisional. Estimate challenged by: R-

2015: Estimate based on coverage reported by national government. Inactivated polio vaccine introduced in November 2015. GoC=R+ D+

# India - MCV1

IND - MCV1



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	70	72	78	82	84	83	83	85	87	88	90	90
Estimate GoC	•	•	•	•••	•••	•••	•	••	•••	•••	••	•
Official	70	72	78	82	84	83	83	NA	87	88	90	100
Administrative	91	97	95	88	89	89	89	NA	87	88	90	100
Survey	69	74	NA	NA	NA	79	NA	81	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

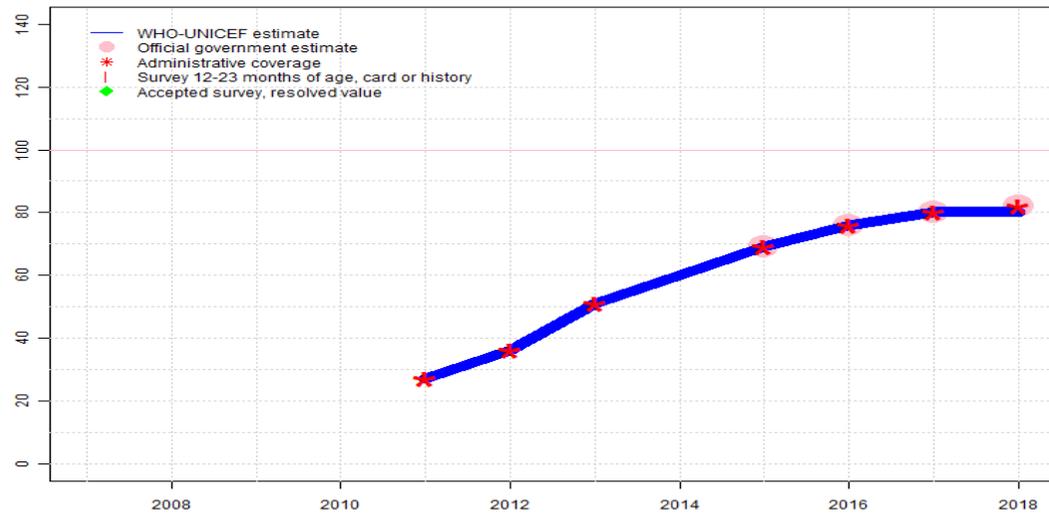
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2018: Estimate based on extrapolation from data reported by national government. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. GoC=Assigned by working group. No accepted empirical data.
- 2017: Estimate based on coverage reported by national government. Estimate of 90 percent changed from previous revision value of 88 percent. GoC=R+ D+
- 2016: Estimate based on coverage reported by national government. The reporting cycle for the Government of India is from April 1 through March 31. Reported data for April-December 2015 are provisional. Results from the National Family Health Survey 2015-16 Fact Sheet suggests coverage of 81 percent. GoC=R+ S+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2014: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 81 percent based on 1 survey(s). During May 2015, the Government of India conducted a review of state-level administrative and survey-based coverage data to derive a revised time series of official coverage estimates from 1998 through 2013. WHO and UNICEF are aware of recent state-level surveys conducted in high-risk states as well as on-going routine coverage monitoring. GoC=S+
- 2013: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 79 percent based on 1 survey(s). GoC=R+ S+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2008: Estimate based on coverage reported by national government supported by survey. Survey evidence of 74 percent based on 1 survey(s). Estimate challenged by: D-
- 2007: Estimate based on coverage reported by national government supported by survey. Survey evidence of 69 percent based on 1 survey(s). Estimate challenged by: D-S-

# India - MCV2

IND - MCV2



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	NA	NA	NA	27	36	51	60	69	76	80	80
Estimate GoC	NA	NA	NA	NA	••	••	••	•	••	••	••	•
Official	NA	69	76	80	82							
Administrative	NA	NA	NA	NA	27	36	51	NA	69	76	80	82
Survey	NA											

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

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

2018: Estimate based on extrapolation from data reported by national government. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. GoC=Assigned by working group. No accepted empirical data.

2017: Estimate based on coverage reported by national government. Estimate of 80 percent changed from previous revision value of 77 percent. GoC=R+ D+

2016: Estimate based on coverage reported by national government. The reporting cycle for the Government of India is from April 1 through March 31. Reported data for April-December 2015 are provisional. GoC=R+ D+

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

2014: Estimate based on interpolation between reported values. GoC=No accepted empirical data

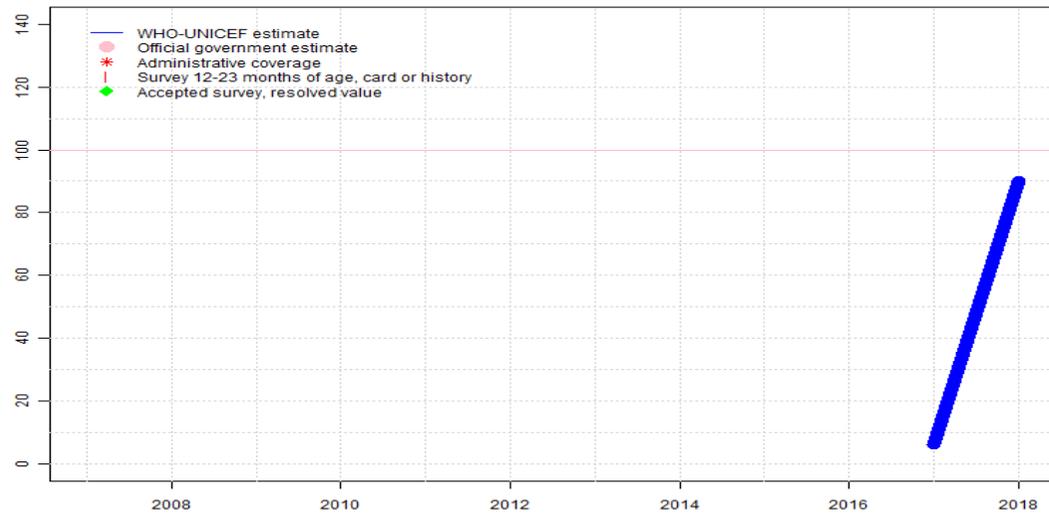
2013: Estimate based on reported administrative estimate. Estimate is based on reported data. GoC=R+ D+

2012: Estimate based on reported administrative estimate. GoC=R+ D+

2011: Estimate based on reported administrative estimate. Measles second dose administered subnationally among children aged 16-24 months. GoC=R+ D+

# India - RCV1

IND - RCV1



## Description:

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

2018: Estimate based on estimated MCV1. GoC=Assigned by working group. No accepted empirical data.

2017: Rubella-containing vaccine was introduced in 2017 as measles-rubella. Programme reports 77 percent coverage achieved in eight percent of the national target population. Estimate is based on annualized coverage achieved in the national target population. GoC=R+ D+

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	6	90									
Estimate GoC	NA	••	•									
Official	NA											
Administrative	NA											
Survey	NA											

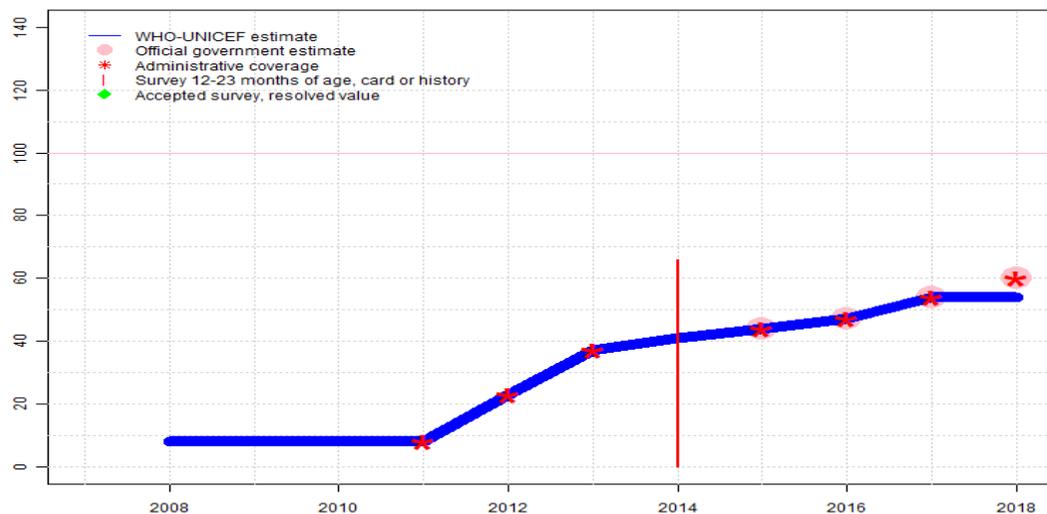
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

# India - HepBB

IND - HepBB



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	8	8	8	8	23	37	41	44	47	54	54
Estimate GoC	NA	•	•	•	••	••	••	•	••	••	••	•
Official	NA	44	47	54	60							
Administrative	NA	NA	NA	NA	8	23	37	NA	44	47	54	60
Survey	NA	66	NA	NA	NA	NA						

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

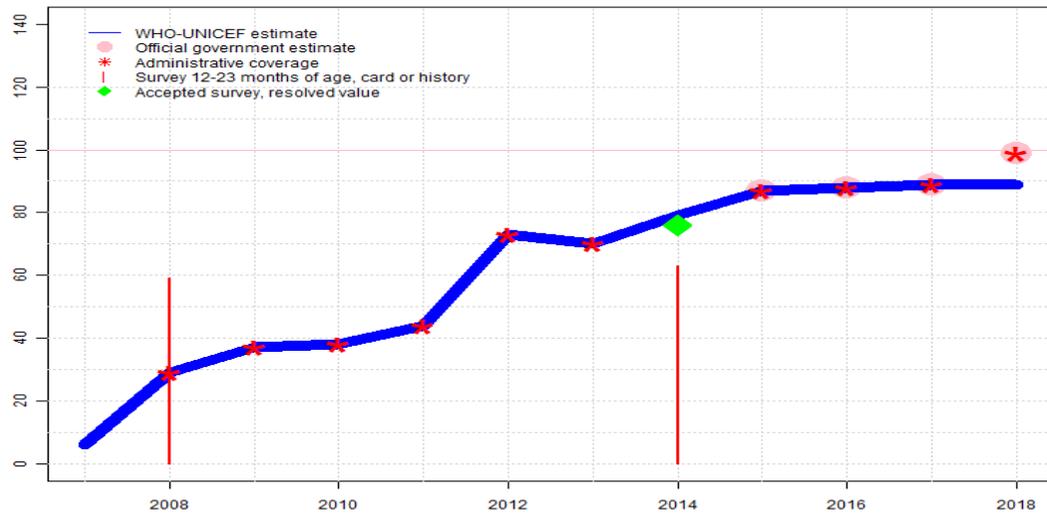
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2018: Estimate based on extrapolation from data reported by national government. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. GoC=Assigned by working group. No accepted empirical data.
- 2017: Estimate based on coverage reported by national government. Estimate of 54 percent changed from previous revision value of 53 percent. GoC=R+ D+
- 2016: Estimate based on coverage reported by national government. The reporting cycle for the Government of India is from April 1 through March 31. Reported data for April-December 2015 are provisional. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on interpolation between reported values. India National Family Health Survey 2015-16 results ignored by working group. Survey data ignored as data may include those doses given after 24 hours. GoC=No accepted empirical data
- 2013: Estimate based on reported administrative estimate. Estimate is based on reported data. GoC=R+ D+
- 2012: Estimate based on reported administrative estimate. GoC=R+ D+
- 2011: Estimate based on reported administrative estimate. GoC=R+ D+
- 2010: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data
- 2009: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data
- 2008: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data

# India - HepB3

IND - HepB3



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	6	29	37	38	44	73	70	79	87	88	89	89
Estimate GoC	•	••	••	••	••	•••	•••	••	•	•	••	•
Official	NA	87	88	89	99							
Administrative	NA	29	37	38	44	73	70	NA	87	88	89	99
Survey	NA	59	NA	NA	NA	NA	NA	63	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

2018: Estimate based on extrapolation from data reported by national government. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. GoC=Assigned by working group. No accepted empirical data.

2017: Estimate based on coverage reported by national government. Estimate of 89 percent changed from previous revision value of 88 percent. GoC=R+ D+

2016: Estimate based on coverage reported by national government. The reporting cycle for the Government of India is from April 1 through March 31. Reported data for April-December 2015 are provisional. Estimate challenged by: S-

2015: Estimate based on coverage reported by national government. Estimate challenged by: S-

2014: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 76 percent based on 1 survey(s). India National Family Health Survey 2015-16 card or history results of 63 percent modified for recall bias to 76 percent based on 1st dose card or history coverage of 82 percent, 1st dose card only coverage of 93 percent and 3rd dose card only coverage of 86 percent. National immunization schedule included pediatric monovalent HepB vaccine in addition to DTP-HepB-Hib. GoC=S+

2013: Estimate based on reported data. GoC=R+ S+ D+

2012: Estimate based on reported data. GoC=R+ S+ D+

2011: Estimate based on reported data. Hepatitis B vaccine introduced in all states from 2011. HepB vaccine was introduced in Madhya Pradesh, Maharashtra, Punjab, Tamil Nadu, West Bengal from 2007-2008. GoC=R+ D+

2010: Estimate based on reported data. GoC=R+ D+

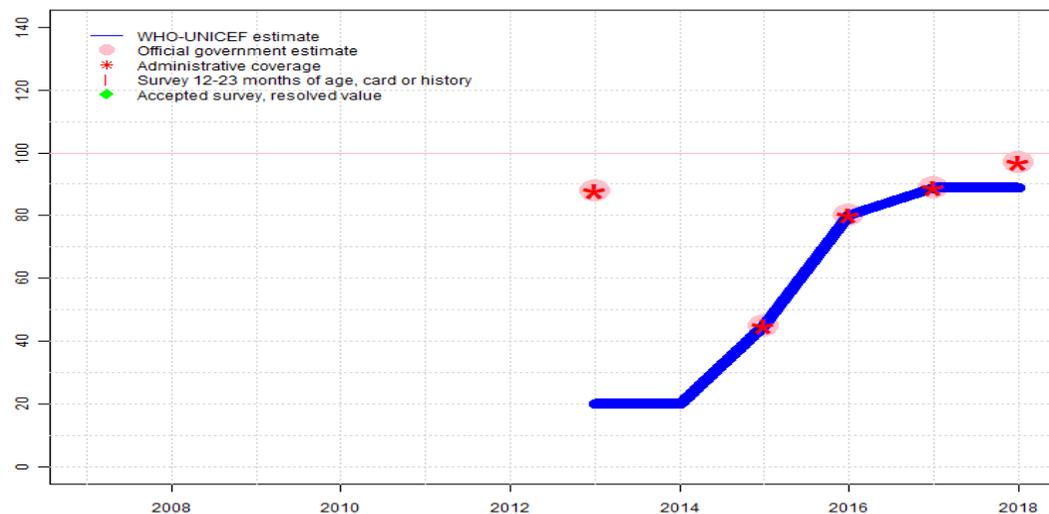
2009: Estimate based on reported data. GoC=R+ D+

2008: Estimate based on reported data. India 2009 Coverage Evaluation Survey results ignored by working group. Population sample for HepB is not nationally representative. It represents 10 states and 3 union territories. GoC=R+ D+

2007: Sixty-nine percent coverage reached in 7 percent of the national target population. GoC=No accepted empirical data

# India - Hib3

IND - Hib3



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	NA	NA	NA	NA	NA	20	20	45	80	89	89
Estimate GoC	NA	NA	NA	NA	NA	NA	•	•	••	••	••	•
Official	NA	NA	NA	NA	NA	NA	88	NA	45	80	89	97
Administrative	NA	NA	NA	NA	NA	NA	88	NA	45	80	89	97
Survey	NA											

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

2018: Estimate based on extrapolation from data reported by national government. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. GoC=Assigned by working group. No accepted empirical data.

2017: Estimate based on coverage reported by national government. Estimate of 89 percent changed from previous revision value of 88 percent. GoC=R+ D+

2016: Estimate based on coverage reported by national government. The reporting cycle for the Government of India is from April 1 through March 31. Reported data for April-December 2015 are provisional. Estimate is based on reported data following introduction. GoC=R+ D+

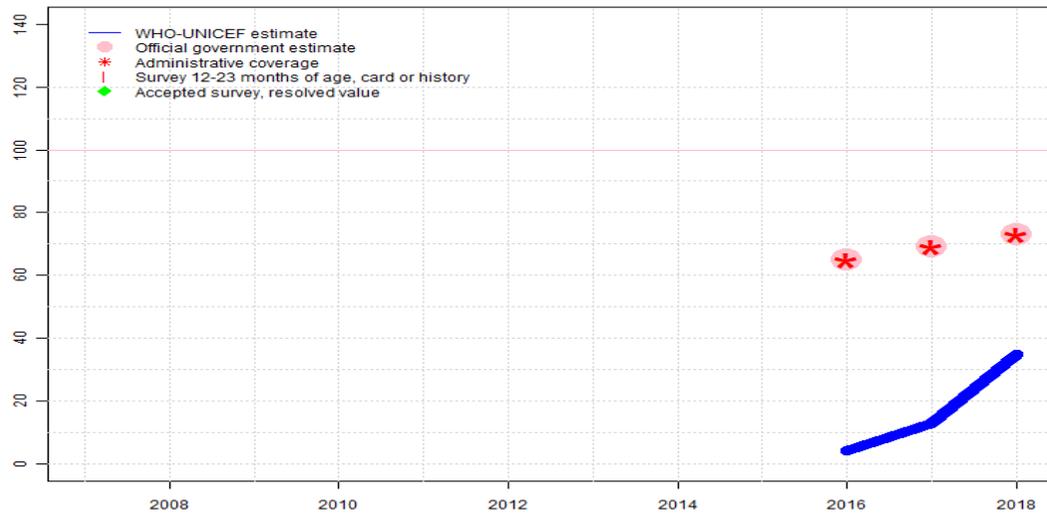
2015: Estimate based on coverage reported by national government. GoC=R+ D+

2014: Estimate reflects annualized coverage using the reported number of children vaccinated and the reported target population for third dose of DTP containing vaccine. GoC=No accepted empirical data

2013: Estimate reflects annualized coverage using the reported number of children vaccinated and the reported target population for third dose of DTP containing vaccine. Eighty-eight percent coverage achieved in 23 percent of the national target population. Hib vaccine introduced subnationally in two states during 2011 and in eight states during 2013. Reporting began in 2013. Estimate challenged by: R-

# India - RotaC

IND - RotaC



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	4	13	35								
Estimate GoC	NA	•	•	•								
Official	NA	65	69	73								
Administrative	NA	65	69	73								
Survey	NA											

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

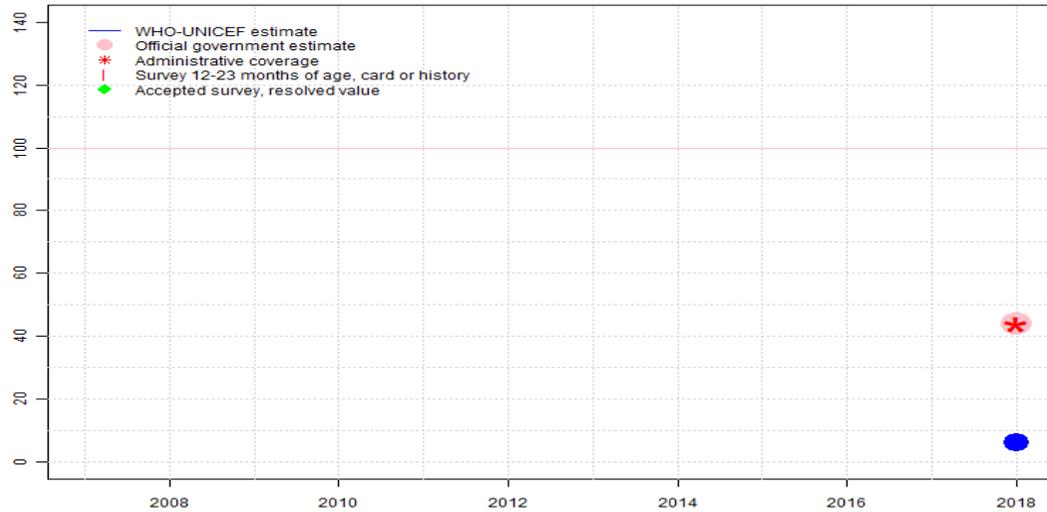
2018: Reported coverage of 73 percent achieved in forty-one percent of the national target population. Estimate is based on annualized coverage achieved in the national target population. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. GoC=Assigned by working group. No accepted empirical data.

2017: Programme reports 61 percent coverage achieved in 21 percent of the national target population. Estimate is based on annualized coverage achieved in the national target population. Estimate challenged by: R-

2016: Rotavirus vaccine was introduced during 2016 through a phased approach in four states. Programme reports 65 percent coverage achieved in six percent of the national target population. Estimate is based on annualized coverage achieved in the national target population. The reporting cycle for the Government of India is from April 1 through March 31. Reported data for April-December 2015 are provisional. Estimate challenged by: R-

# India - PcV3

IND - PcV3



## Description:

2018: PCV partially introduced in April 2017. Reporting started in 2018. Coverage of 44 percent achieved in thirteen percent of the national target population. Estimate is based on annualized coverage achieved in the national target population. Reported data excluded. Country reports that 2018 data are provisional. Increase in reported coverage is due in part to a 12 percent decline in reported target population compared to the prior year. Although India has undertaken many activities to address low vaccination coverage levels (e.g., Mission Indradhanush, strengthened microplanning and additional monitoring/accountability mechanisms), reported coverage levels are likely an overestimate given results from a 2018 coverage evaluation survey of 190 Intensified Mission Indradhanush districts. While the 2018 survey results suggest improvements in vaccination coverage compared to the 2015-16 National Family Health Survey, numerous districts had estimated coverage levels less than 90 percent for DTP3 and MCV1. WHO and UNICEF are aware of an ongoing 2018-19 NFHS and await the final results. GoC=Assigned by working group. No accepted empirical data.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estimate	NA	6										
Estimate GoC	NA	●										
Official	NA	44										
Administrative	NA	44										
Survey	NA											

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2017 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

# India - survey details

## 2014 India National Family Health Survey 2015-16

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	91.4	12-23 m	47839	63
BCG	Card	98.4	12-23 m	30240	63
BCG	Card or History	91.9	12-23 m	47839	63
BCG	History	80.7	12-23 m	17599	63
DTP1	C or H <12 months	88.6	12-23 m	47839	63
DTP1	Card	97.4	12-23 m	30240	63
DTP1	Card or History	89.5	12-23 m	47839	63
DTP1	History	75.9	12-23 m	17599	63
DTP3	C or H <12 months	75.9	12-23 m	47839	63
DTP3	Card	92.2	12-23 m	30240	63
DTP3	Card or History	78.4	12-23 m	47839	63
DTP3	History	54.6	12-23 m	17599	63
HepB1	C or H <12 months	81.8	12-23 m	47839	63
HepB1	Card	92.6	12-23 m	30240	63
HepB1	Card or History	82.5	12-23 m	47839	63
HepB1	History	65	12-23 m	17599	63
HepB3	C or H <12 months	60.7	12-23 m	47839	63
HepB3	Card	86.2	12-23 m	30240	63
HepB3	Card or History	62.7	12-23 m	47839	63
HepB3	History	22.5	12-23 m	17599	63
HepBB	C or H <12 months	64.6	12-23 m	47839	63
HepBB	Card	74.3	12-23 m	30240	63
HepBB	Card or History	65.6	12-23 m	47839	63
HepBB	History	50.5	12-23 m	17599	63
MCV1	C or H <12 months	71.3	12-23 m	47839	63
MCV1	Card	87.9	12-23 m	30240	63
MCV1	Card or History	81.1	12-23 m	47839	63
MCV1	History	69.4	12-23 m	17599	63
Pol1	C or H <12 months	90.2	12-23 m	47839	63
Pol1	Card	98.3	12-23 m	30240	63
Pol1	Card or History	90.8	12-23 m	47839	63
Pol1	History	77.9	12-23 m	17599	63
Pol3	C or H <12 months	70.7	12-23 m	47839	63
Pol3	Card	92.6	12-23 m	30240	63
Pol3	Card or History	72.8	12-23 m	47839	63
Pol3	History	38.8	12-23 m	17599	63

## 2012 Rapid Survey on Children, 2013-2014

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	91.1	12-23 m	17311	84
DTP3	Card or History	74.8	12-23 m	17311	84
MCV1	Card or History	78.9	12-23 m	17311	84

## 2008 India 2009 Coverage Evaluation Survey

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	86.9	12-23 m	22604	52
DTP1	Card or History	82.6	12-23 m	22604	52
DTP3	Card or History	71.5	12-23 m	22604	52
HepB1	Card or History	70.7	12-23 m	22604	52
HepB3	Card or History	58.9	12-23 m	22604	52
MCV1	Card or History	74.1	12-23 m	22604	52
Pol3	Card or History	70.4	12-23 m	22604	52

## 2007 India District-Level Household and Facility Survey 2007-2008 (DHLS-3)

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	86.7	12-23 m	65628	43
DTP1	Card or History	82.3	12-23 m	65628	43
DTP3	Card or History	63.4	12-23 m	65628	43
MCV1	Card or History	69.1	12-23 m	65628	43
Pol1	Card or History	93.2	12-23 m	65628	43
Pol3	Card or History	65.6	12-23 m	65628	43

## 2006 India Coverage Evaluation Survey 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	87.4	12-23 m	22888	71
DTP1	Card or History	83.4	12-23 m	22888	71
DTP3	Card or History	68.4	12-23 m	22888	71

# India - survey details

MCV1	Card or History	70.9	12-23 m	22888	71
Pol1	Card or History	81.8	12-23 m	22888	71
Pol3	Card or History	67.5	12-23 m	22888	71

DTP3	Card or History	67.3	12-23 m	15676	71
MCV1	Card or History	68.1	12-23 m	15676	71
Pol1	Card or History	78.6	12-23 m	15676	71
Pol3	Card or History	61.3	12-23 m	15676	71

## 2005 India National Family Health Survey (NFHS-3) 2005-2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	75.6	12-23 m	10419	38
BCG	Card	97.2	12-23 m	10419	38
BCG	Card or History	78.1	12-23 m	10419	38
BCG	History	66.7	12-23 m	10419	38
DTP1	C or H <12 months	72.8	12-23 m	10419	38
DTP1	Card	98.5	12-23 m	10419	38
DTP1	Card or History	76	12-23 m	10419	38
DTP1	History	62.5	12-23 m	10419	38
DTP3	C or H <12 months	51.5	12-23 m	10419	38
DTP3	Card	86.9	12-23 m	10419	38
DTP3	Card or History	55.3	12-23 m	10419	38
DTP3	History	36.3	12-23 m	10419	38
MCV1	C or H <12 months	48.4	12-23 m	10419	38
MCV1	Card	81.1	12-23 m	10419	38
MCV1	Card or History	58.8	12-23 m	10419	38
MCV1	History	45.4	12-23 m	10419	38
Pol1	C or H <12 months	89.1	12-23 m	10419	38
Pol1	Card	98	12-23 m	10419	38
Pol1	Card or History	93.1	12-23 m	10419	38
Pol1	History	90.2	12-23 m	10419	38
Pol3	C or H <12 months	73.2	12-23 m	10419	38
Pol3	Card	86.6	12-23 m	10419	38
Pol3	Card or History	78.2	12-23 m	10419	38
Pol3	History	73.2	12-23 m	10419	38

## 2004 India Coverage Evaluation Survey 2005

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	83.4	12-23 m	15676	71
DTP1	Card or History	80.4	12-23 m	15676	71

## 2002 Reproductive and Child Health (District Level Household Survey 2002-2004) - India

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	75	12-23 m	62505	31
DTP1	Card or History	73	12-23 m	62505	31
DTP3	Card or History	58	12-23 m	62505	31
MCV1	Card or History	56	12-23 m	62505	31
Pol3	Card or History	57	12-23 m	62505	31

## 2001 Routine Immunization and Maternal Care, CES, 2002

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	74	12-23 m	-	54
DTP1	C or H <12 months	70.6	12-23 m	-	54
DTP3	C or H <12 months	63.8	12-23 m	-	54
MCV1	C or H <12 months	61.4	12-23 m	-	54
Pol3	C or H <12 months	68.3	12-23 m	-	54

## 2000 Routine Immunization and Maternal Care, CES, 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	72.8	12-23 m	-	57
DTP1	C or H <12 months	71.1	12-23 m	-	57
DTP3	C or H <12 months	63.6	12-23 m	-	57
MCV1	C or H <12 months	55.6	12-23 m	-	57
Pol3	C or H <12 months	70.4	12-23 m	-	57

## 1999 India, Multiple Indicator Cluster Survey India (MICS-II) 2000

# India - survey details

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	67.7	12-23 m	-	-
DTP1	Card or History	64.4	12-23 m	-	-
DTP3	Card or History	46.6	12-23 m	-	-
MCV1	Card or History	50.4	12-23 m	-	-
Pol1	Card or History	69.9	12-23 m	-	-
Pol3	Card or History	58.9	12-23 m	-	-

## 1997 Evaluation of Routine Immunization 1998-99

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	72.3	12-23 m	7855	48
DTP1	Card or History	72.8	12-23 m	7855	48
DTP3	Card or History	68.6	12-23 m	7855	48
MCV1	Card or History	55.2	12-23 m	7855	48
Pol1	Card or History	72.6	12-23 m	7855	48
Pol3	Card or History	68.6	12-23 m	7855	48

## 1997 National Family Health Survey, India 1998-99

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
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BCG	C or H <12 months	69.1	12-23 m	10076	34
BCG	Card	95.2	12-23 m	3393	34
BCG	Card or History	71.6	12-23 m	10076	34
BCG	History	59.6	12-23 m	6684	34
DTP1	C or H <12 months	68.8	12-23 m	10076	34
DTP1	Card	98.6	12-23 m	3393	34
DTP1	Card or History	71.4	12-23 m	10076	34
DTP1	History	57.6	12-23 m	6684	34
DTP3	C or H <12 months	52.1	12-23 m	10076	34
DTP3	Card	85.5	12-23 m	3393	34
DTP3	Card or History	55.1	12-23 m	10076	34
DTP3	History	39.7	12-23 m	6684	34
MCV1	C or H <12 months	41.7	12-23 m	10076	34
MCV1	Card	73.2	12-23 m	3393	34
MCV1	Card or History	50.7	12-23 m	10076	34
MCV1	History	39.3	12-23 m	6684	34
Pol1	C or H <12 months	80.3	12-23 m	10076	34
Pol1	Card	98.1	12-23 m	3393	34
Pol1	Card or History	83.6	12-23 m	10076	34
Pol1	History	76.2	12-23 m	6684	34
Pol3	C or H <12 months	59.2	12-23 m	10076	34
Pol3	Card	85.4	12-23 m	3393	34
Pol3	Card or History	62.8	12-23 m	10076	34
Pol3	History	51.3	12-23 m	6684	34

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