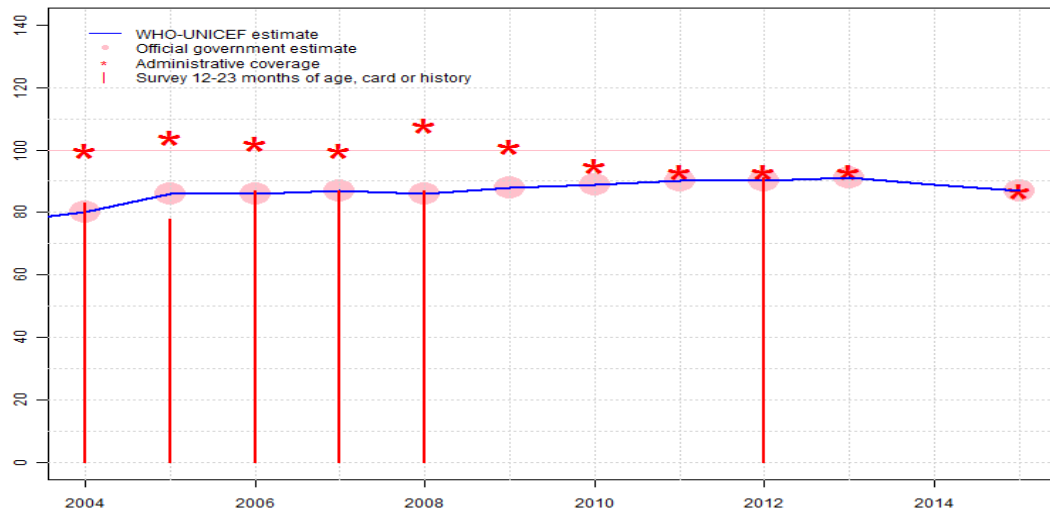


# India - BCG

IND - BCG



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	80	86	86	87	86	88	89	90	90	91	89	87
Estimate GoC	●	●	●	●●●	●	●●●	●●●	●●●	●●●	●●●	●●	●●
Official	80	86	86	87	86	88	89	90	90	91	NA	87
Administrative	100	104	102	100	108	101	95	93	93	93	NA	87
Survey	83	78	87	87	87	NA	NA	NA	91	NA	NA	NA

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

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

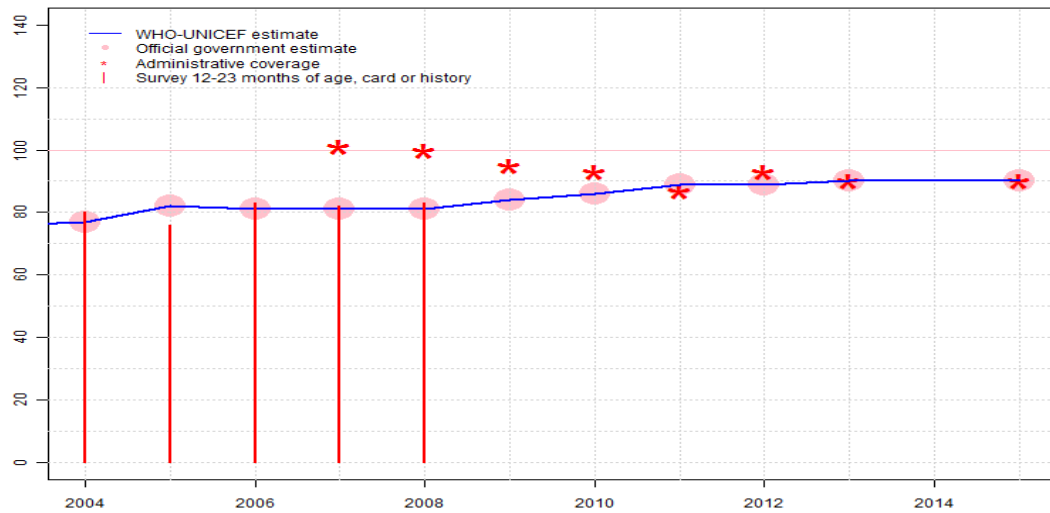
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). Estimate challenged by: D-
- 2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 78 percent based on 1 survey(s). Estimate challenged by: D-
- 2006: 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+
- 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-
- 2009: 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+
- 2011: 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+
- 2013: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2014: Estimate based on interpolation between data reported by national government. 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. Estimate of 89 percent changed from previous revision value of 91 percent. GoC=S+ D+
- 2015: 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+

# India - DTP1

IND - DTP1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	77	82	81	81	81	84	86	89	89	90	90	90
Estimate GoC	●●	●●	●●	●●	●	●	●	●●	●●	●●	●	●●
Official	77	82	81	81	81	84	86	89	89	90	NA	90
Administrative	NA	NA	NA	101	100	95	93	87	93	90	NA	90
Survey	80	76	83	82	83	NA	NA	NA	NA	NA	NA	NA

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

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

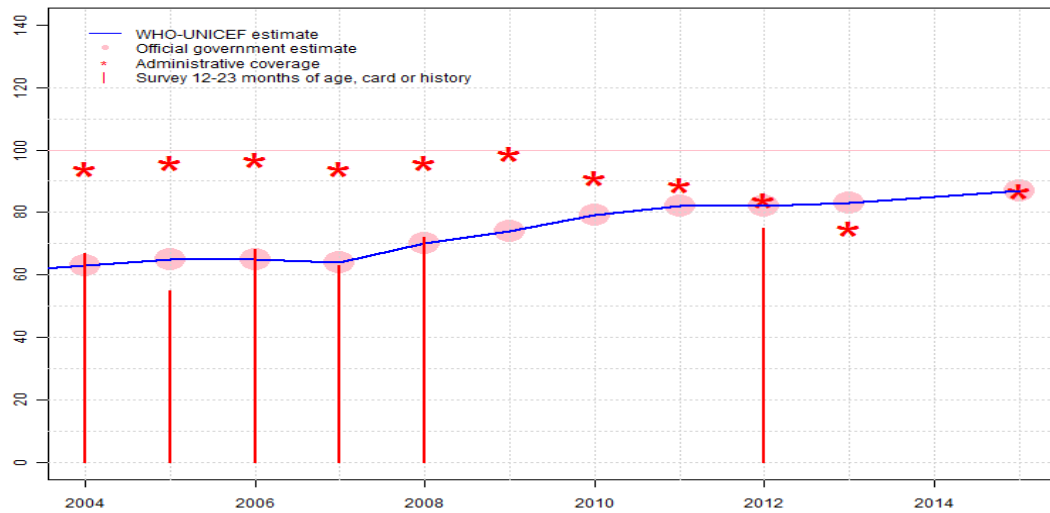
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 80 percent based on 1 survey(s). GoC=R+ S+
- 2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 76 percent based on 1 survey(s). GoC=R+ S+
- 2006: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). GoC=R+ S+
- 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+
- 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-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2011: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=Assigned by working group. Estimate is supported by D+
- 2013: Estimate based on coverage reported by national government. GoC=Assigned by working group. Estimate is supported by D+
- 2014: Estimate based on interpolation between data reported by national government. 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=No accepted empirical data
- 2015: 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+

# India - DTP3

IND - DTP3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	63	65	65	64	70	74	79	82	82	83	85	87
Estimate GoC	•	•	•	•	•	•	•	•••	•••	•••	••	••
Official	63	65	65	64	70	74	79	82	82	83	NA	87
Administrative	94	96	97	94	96	99	91	89	84	75	NA	87
Survey	67	55	68	63	72	NA	NA	NA	75	NA	NA	NA

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

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

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

## Description:

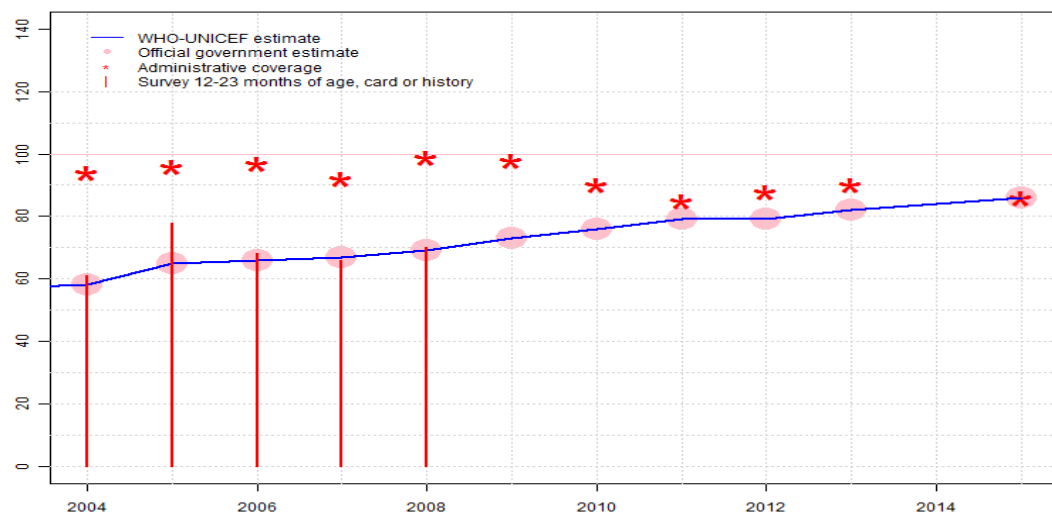
- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 67 percent based on 1 survey(s). Estimate challenged by: D-
- 2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 67 percent based on 1 survey(s). India National Family Health Survey (NFHS-3) 2005-2006 card or history results of 55 percent modified for recall bias to 67 percent based on 1st dose card or history coverage of 76 percent, 1st dose card only coverage of 98 percent and 3d dose card only coverage of 87 percent. Estimate challenged by: D-
- 2006: Estimate based on coverage reported by national government supported by survey. Survey evidence of 68 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 63 percent based on 1 survey(s). Estimate challenged by: D-
- 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-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2011: 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+
- 2013: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2014: Estimate based on interpolation between data reported by national government. 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. Estimate of 85 percent changed from previous revision value of 83 percent. GoC=S+
- 2015: Estimate based on coverage reported by national government. The reporting cycle for the Government of India is from April 1 through March 31.

# India - DTP3

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Reported data for April-December 2015 are provisional. GoC=R+ D+

IND - Pol3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	58	65	66	67	69	73	76	79	79	82	84	86
Estimate GoC	•	•	•	•	•	•	•	••	•	•	•	••
Official	58	65	66	67	69	73	76	79	79	82	NA	86
Administrative	94	96	97	92	99	98	90	85	88	90	NA	86
Survey	61	78	68	66	70	NA	NA	NA	NA	NA	NA	NA

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

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

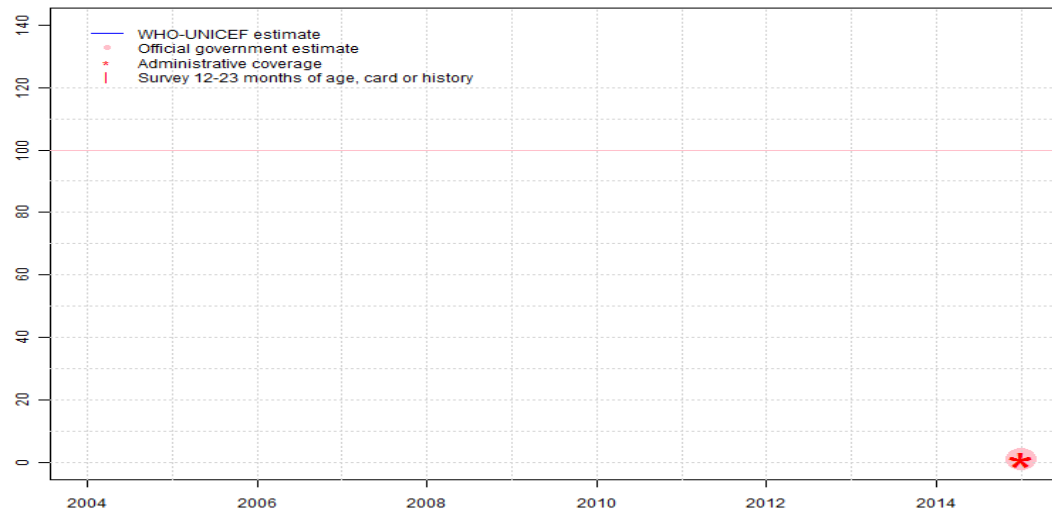
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 61 percent based on 1 survey(s). Estimate challenged by: D-S-
- 2005: Estimate based on coverage reported by national government. India National Family Health Survey (NFHS-3) 2005-2006 results ignored by working group. The 2005 National Family Health Survey results likely include campaign doses. India National Family Health Survey (NFHS-3) 2005-2006 card or history results of 78 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 93 percent, 1st dose card only coverage of 98 percent and 3d dose card only coverage of 87 percent. Estimate challenged by: D-S-
- 2006: Estimate based on coverage reported by national government supported by survey. Survey evidence of 68 percent based on 1 survey(s). Estimate challenged by: D-S-
- 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-S-
- 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-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2011: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on interpolation between data reported by national government. 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. Estimate of 84 percent changed from previous revision value of 82 percent. GoC=No accepted empirical data
- 2015: 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+

# India - IPV1

IND - IPV1



## Description:

2015: 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. IPV introduced in November 2015. GoC=R+ D+

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	●●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

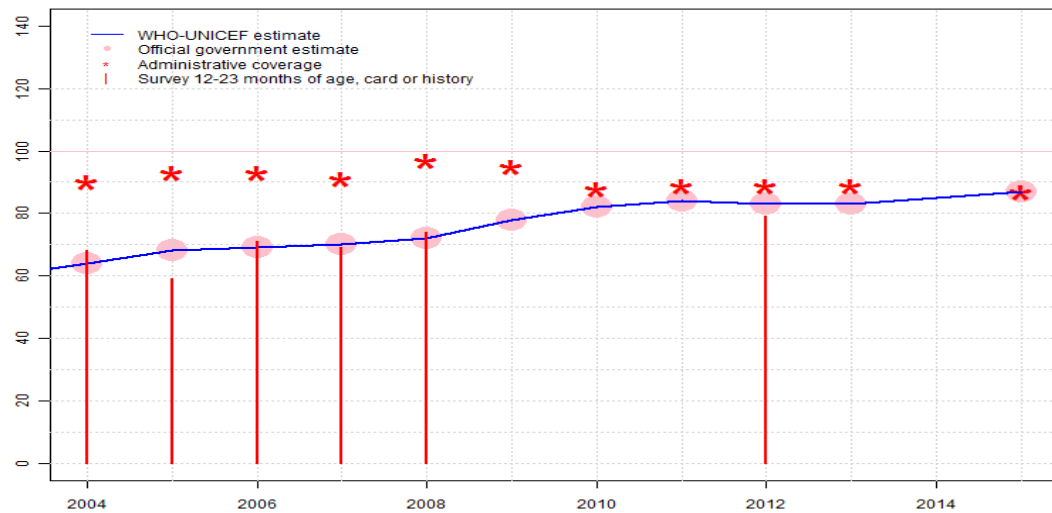
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk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

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



# India - MCV1

IND - MCV1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	64	68	69	70	72	78	82	84	83	83	85	87
Estimate GoC	●	●	●	●	●	●	●●●	●●●	●●●	●●●	●●	●●
Official	64	68	69	70	72	78	82	84	83	83	NA	87
Administrative	90	93	93	91	97	95	88	89	89	89	NA	87
Survey	68	59	71	69	74	NA	NA	NA	79	NA	NA	NA

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

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

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

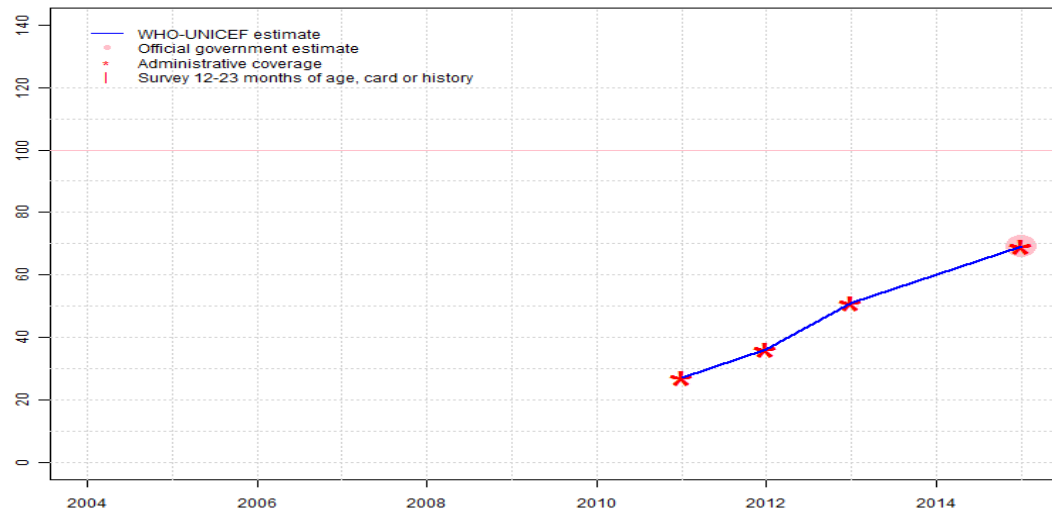
## Description:

- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 68 percent based on 1 survey(s). Estimate challenged by: D-
- 2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 59 percent based on 1 survey(s). Estimate challenged by: D-
- 2006: Estimate based on coverage reported by national government supported by survey. Survey evidence of 71 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-
- 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-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2011: 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 79 percent based on 1 survey(s). GoC=R+ S+ D+
- 2013: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2014: Estimate based on interpolation between data reported by national government. 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. Estimate of 85 percent changed from previous revision value of 83 percent. GoC=S+ D+
- 2015: 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+



# India - MCV2

IND - MCV2



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	27	36	51	60	69
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	●●	●●	●●	●	●●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	69
Administrative	NA	NA	NA	NA	NA	NA	NA	27	36	51	NA	69
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

## Description:

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

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

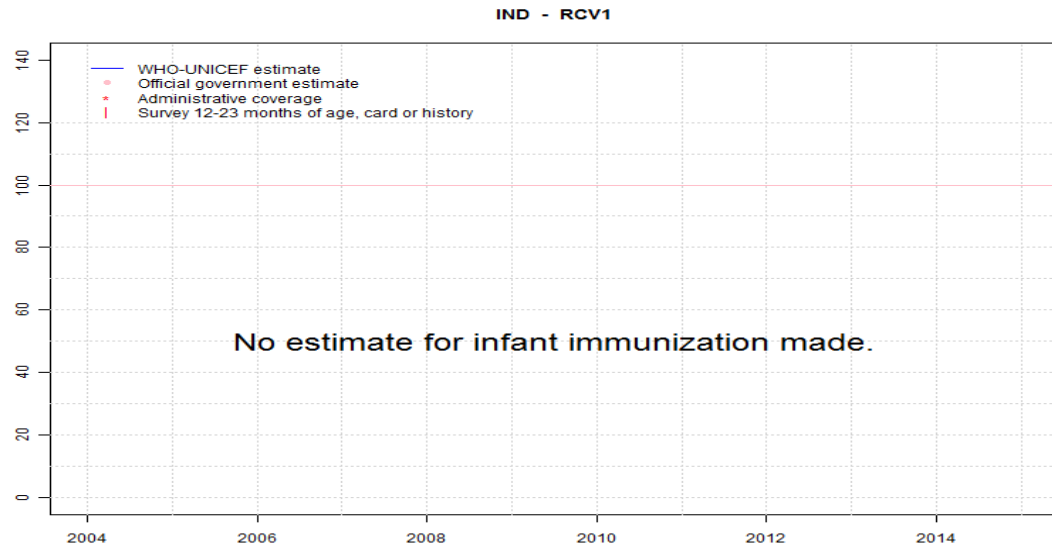
2012: Estimate based on reported administrative estimate. GoC=R+ D+

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

2014: Estimate based on interpolation between reported values. Estimate of 60 percent changed from previous revision value of 51 percent. GoC=No accepted empirical data

2015: 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+

# India - RCV1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

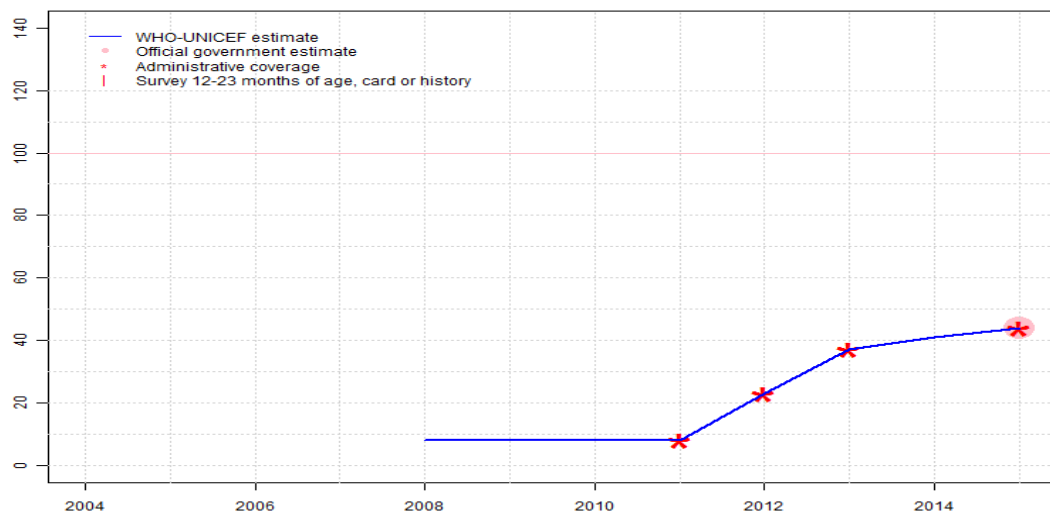
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

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

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

# India - HepBB

IND - HepBB



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	8	8	8	8	23	37	41	44
Estimate GoC	NA	NA	NA	NA	•	•	•	••	••	••	•	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44
Administrative	NA	NA	NA	NA	NA	NA	NA	8	23	37	NA	44
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

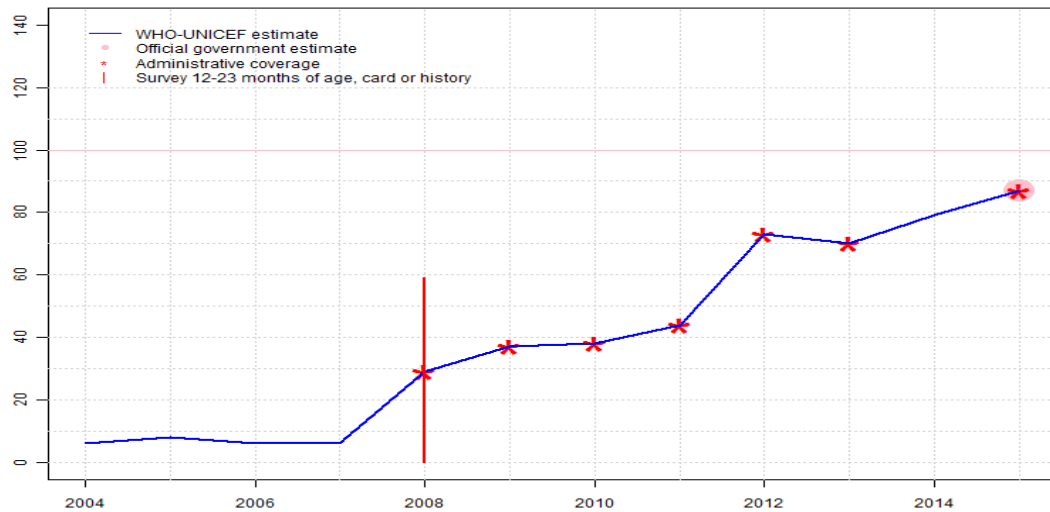
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2008: 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
- 2010: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data
- 2011: Estimate based on reported administrative estimate. GoC=R+ D+
- 2012: Estimate based on reported administrative estimate. GoC=R+ D+
- 2013: Estimate based on reported administrative estimate. Estimate is based on reported data. GoC=R+ D+
- 2014: Estimate based on interpolation between reported values. Estimate of 41 percent changed from previous revision value of 37 percent. GoC=No accepted empirical data
- 2015: 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+

# India - HepB3

IND - HepB3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	6	8	6	6	29	37	38	44	73	70	79	87
Estimate GoC	•	•	•	•	•	•	•	••	••	••	•	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	87
Administrative	NA	NA	NA	NA	29	37	38	44	73	70	NA	87
Survey	NA	NA	NA	NA	59	NA	NA	NA	NA	NA	NA	NA

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

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

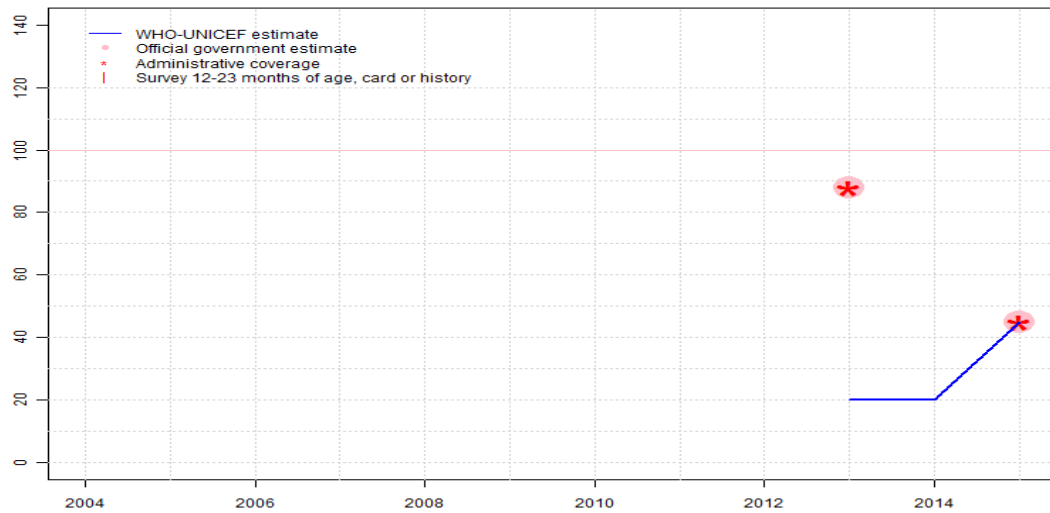
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2004: Sixty-eight percent coverage reached in 1.65 million children. HepB vaccine partially introduced in 2002, reporting started in 2004. Vaccine presentation is monovalent HepB. GoC=No accepted empirical data
- 2005: Seventy-eight percent coverage reached in 2.3 million children. GoC=No accepted empirical data
- 2006: Seventy-two percent coverage reached in 8 percent of the national target population. Estimate challenged by: S-
- 2007: Sixty-nine percent coverage reached in 7 percent of the national target population. Estimate challenged by: S-
- 2008: Estimate based on reported administrative estimate. 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. Estimate challenged by: S-
- 2009: Estimate based on reported administrative estimate. Estimate challenged by: S-
- 2010: Estimate based on reported administrative estimate. Estimate challenged by: S-
- 2011: Estimate based on reported administrative estimate. 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+
- 2012: Estimate based on reported administrative estimate. GoC=R+ D+
- 2013: Estimate based on reported administrative estimate. GoC=R+ D+
- 2014: Estimate based on interpolation between reported values. National immunization schedule included pediatric monovalent HepB vaccine in addition to DTP-HepB-Hib. Estimate of 79 percent changed from previous revision value of 70 percent. GoC=No accepted empirical data
- 2015: 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+

# India - Hib3

IND - Hib3



## Description:

- 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-
- 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
- 2015: 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+

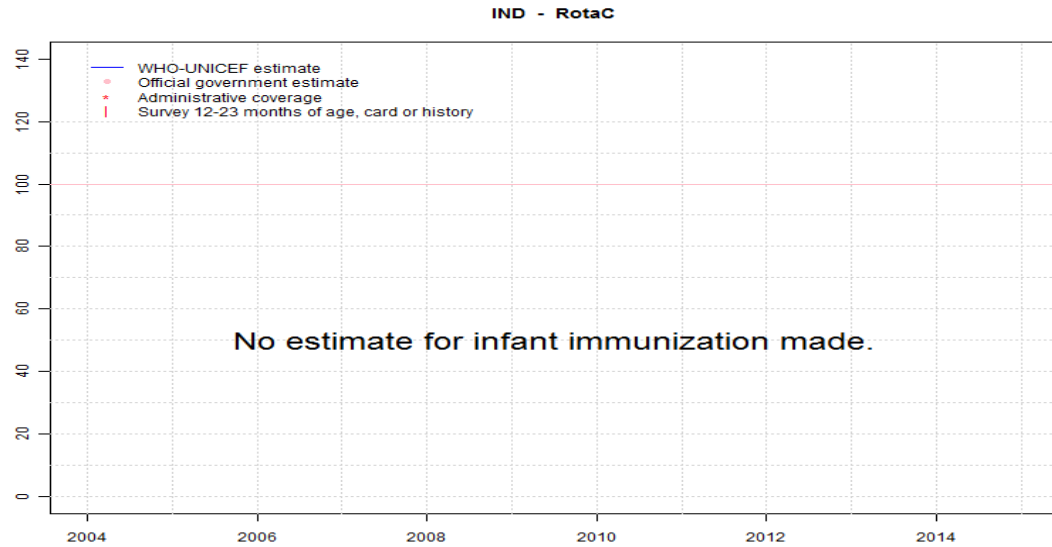
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	20	45
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	●	●	●●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	88	NA	45
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	88	NA	45
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

# India - RotaC



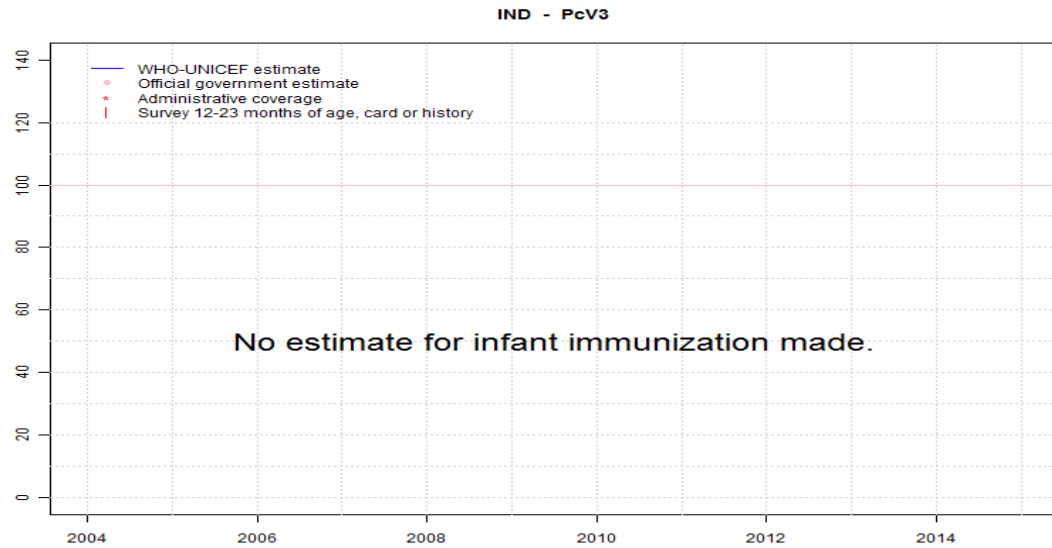
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

# India - PcV3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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



# India - survey details

## 2012 Rapid Survey on Children, 2013-2014

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	91	12-23 m	17311	84
DTP3	Card or History	75	12-23 m	17311	84
MCV1	Card or History	79	12-23 m	17311	84

DTP3	Card or History	68	12-23 m	22888	71
MCV1	Card or History	71	12-23 m	22888	71
Pol1	Card or History	82	12-23 m	22888	71
Pol3	Card or History	68	12-23 m	22888	71

## 2008 India 2009 Coverage Evaluation Survey

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	87	12-23 m	22604	52
DTP1	Card or History	83	12-23 m	22604	52
DTP3	Card or History	72	12-23 m	22604	52
HepB1	Card or History	71	12-23 m	22604	52
HepB3	Card or History	59	12-23 m	22604	52
MCV1	Card or History	74	12-23 m	22604	52
Pol3	Card or History	70	12-23 m	22604	52

## 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	76	12-23 m	10419	38
BCG	Card	97	12-23 m	10419	38
BCG	Card or History	78	12-23 m	10419	38
BCG	History	67	12-23 m	10419	38
DTP1	C or H <12 months	73	12-23 m	10419	38
DTP1	Card	98	12-23 m	10419	38
DTP1	Card or History	76	12-23 m	10419	38
DTP1	History	62	12-23 m	10419	38
DTP3	C or H <12 months	52	12-23 m	10419	38
DTP3	Card	87	12-23 m	10419	38
DTP3	Card or History	55	12-23 m	10419	38
DTP3	History	36	12-23 m	10419	38
MCV1	C or H <12 months	48	12-23 m	10419	38
MCV1	Card	81	12-23 m	10419	38
MCV1	Card or History	59	12-23 m	10419	38
MCV1	History	45	12-23 m	10419	38
Pol1	C or H <12 months	89	12-23 m	10419	38
Pol1	Card	98	12-23 m	10419	38
Pol1	Card or History	93	12-23 m	10419	38
Pol1	History	90	12-23 m	10419	38
Pol3	C or H <12 months	73	12-23 m	10419	38
Pol3	Card	87	12-23 m	10419	38
Pol3	Card or History	78	12-23 m	10419	38
Pol3	History	73	12-23 m	10419	38

## 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	87	12-23 m	65628	43
DTP1	Card or History	82	12-23 m	65628	43
DTP3	Card or History	63	12-23 m	65628	43
MCV1	Card or History	69	12-23 m	65628	43
Pol1	Card or History	93	12-23 m	65628	43
Pol3	Card or History	66	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	12-23 m	22888	71
DTP1	Card or History	83	12-23 m	22888	71

## 2004 India Coverage Evaluation Survey 2005

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	83	12-23 m	15676	71

# India - survey details

DTP1	Card or History	80	12-23 m	15676	71
DTP3	Card or History	67	12-23 m	15676	71
MCV1	Card or History	68	12-23 m	15676	71
Pol1	Card or History	79	12-23 m	15676	71
Pol3	Card or History	61	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	71	12-23 m	-	54
DTP3	C or H <12 months	64	12-23 m	-	54
MCV1	C or H <12 months	61	12-23 m	-	54
Pol3	C or H <12 months	68	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	73	12-23 m	-	57
DTP1	C or H <12 months	71	12-23 m	-	57
DTP3	C or H <12 months	64	12-23 m	-	57
MCV1	C or H <12 months	56	12-23 m	-	57
Pol3	C or H <12 months	70	12-23 m	-	57

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

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	68	12-23 m	-	-
DTP1	Card or History	64	12-23 m	-	-
DTP3	Card or History	47	12-23 m	-	-
MCV1	Card or History	50	12-23 m	-	-
Pol1	Card or History	70	12-23 m	-	-
Pol3	Card or History	59	12-23 m	-	-

## 1997 Evaluation of Routine Immunization 1998-99

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	72	12-23 m	7855	48
DTP1	Card or History	73	12-23 m	7855	48
DTP3	Card or History	69	12-23 m	7855	48
MCV1	Card or History	55	12-23 m	7855	48
Pol1	Card or History	73	12-23 m	7855	48
Pol3	Card or History	69	12-23 m	7855	48

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

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	69	12-23 m	10076	34
BCG	Card	95	12-23 m	3393	34
BCG	Card or History	72	12-23 m	10076	34
BCG	History	60	12-23 m	6684	34
DTP1	C or H <12 months	69	12-23 m	10076	34
DTP1	Card	99	12-23 m	3393	34
DTP1	Card or History	71	12-23 m	10076	34
DTP1	History	58	12-23 m	6684	34
DTP3	C or H <12 months	52	12-23 m	10076	34
DTP3	Card	86	12-23 m	3393	34
DTP3	Card or History	55	12-23 m	10076	34
DTP3	History	40	12-23 m	6684	34

## India - survey details

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MCV1	C or H <12 months	42	12-23 m	10076	34
MCV1	Card	73	12-23 m	3393	34
MCV1	Card or History	51	12-23 m	10076	34
MCV1	History	39	12-23 m	6684	34
Pol1	C or H <12 months	80	12-23 m	10076	34
Pol1	Card	98	12-23 m	3393	34
Pol1	Card or History	84	12-23 m	10076	34

Pol1	History	76	12-23 m	6684	34
Pol3	C or H <12 months	59	12-23 m	10076	34
Pol3	Card	85	12-23 m	3393	34
Pol3	Card or History	63	12-23 m	10076	34
Pol3	History	51	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)

## India

### WHO/UNICEF Estimates of Protection at Birth (PAB) against tetanus

In countries where tetanus is recommended for girls and women coverage is usually reported as "TT2+", i.e. the proportion of (pregnant) women who have received their second or superior TT dose in a given year. TT2 + coverage, however, can under-represent the actual proportion of births that are protected against tetanus as it does not include women who have previously received protective doses, women who received one dose without documentation of previous doses, and women who received doses in TT (or Td) supplemental immunization activities (SIA). In addition, girls who have received DTP in their childhood and are entering childbearing age, may be protected with TT booster doses.

WHO and UNICEF have developed a model that takes into account the above scenarios, and calculates the proportion of births in a given year that can be considered as having been protected against tetanus - "Protection at Birth".

In this model, annual cohorts of women are followed from infancy through their life. A proportion receives DTP in infancy (estimated based on the WHO-UNICEF estimates of DTP3 coverage). In addition some of these women also receive TT through routine services when they are pregnant and may also receive TT during SIAs. The model also adjusts reported data, taking into account coverage patterns in other years, and/or results available through surveys. The duration of protection is then calculated, based on WHO estimates of the duration of protection by doses ever received. The proportion of births that are protected against tetanus as a result of maternal immunization reflects the tetanus immunization received by the mother throughout her life rather than simply the TT immunizations received during the current pregnancy.

The model was used in the mid to late 2000. Currently, the coverage series developed by the model is used as the baseline, and efforts are made to obtain data from all sources that include the JRF and reported trend over the years, routine PAB reporting and its trend over the years, data from surveys (DHS, MICS, EPI), whether countries have been validated for the attainment of maternal and neonatal tetanus elimination and what the TT coverage figures are from the survey etc and all the information is used to arrive at an estimate of the protection-at-birth from TT vaccination.

Year	PAB coverage estimate (%)
2004	86
2005	86
2006	86
2007	86
2008	86
2009	86
2010	87
2011	87
2012	87
2013	87
2014	87
2015	87

<sup>1</sup> This model is described in: Griffiths U., Wolfson L., Quddus A., Younus M., Hafiz R.. Incremental cost-effectiveness of supplementary immunization activities to prevent neo-natal tetanus in Pakistan. Bulletin of the World Health Organization 2004; 82:643-651.