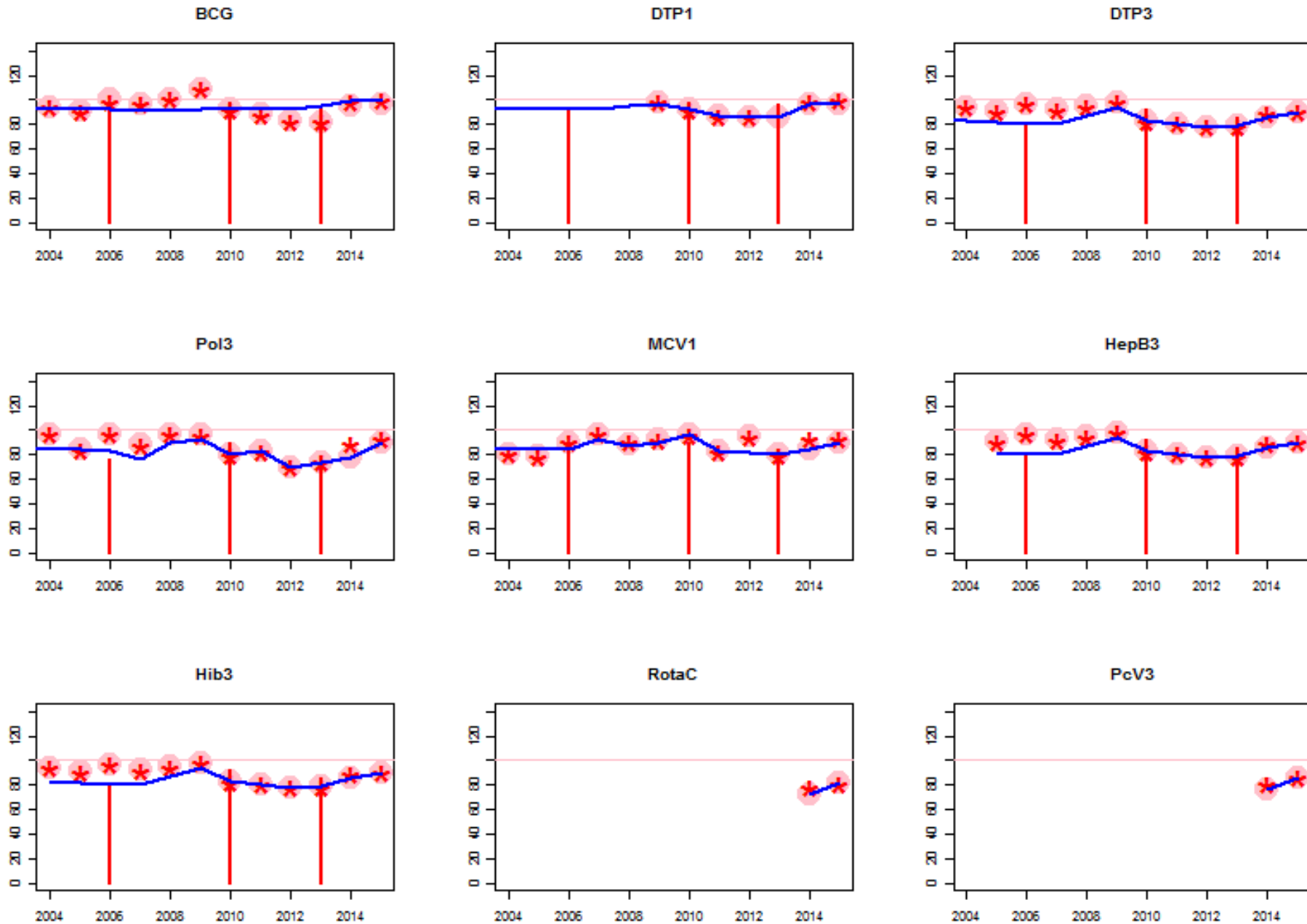
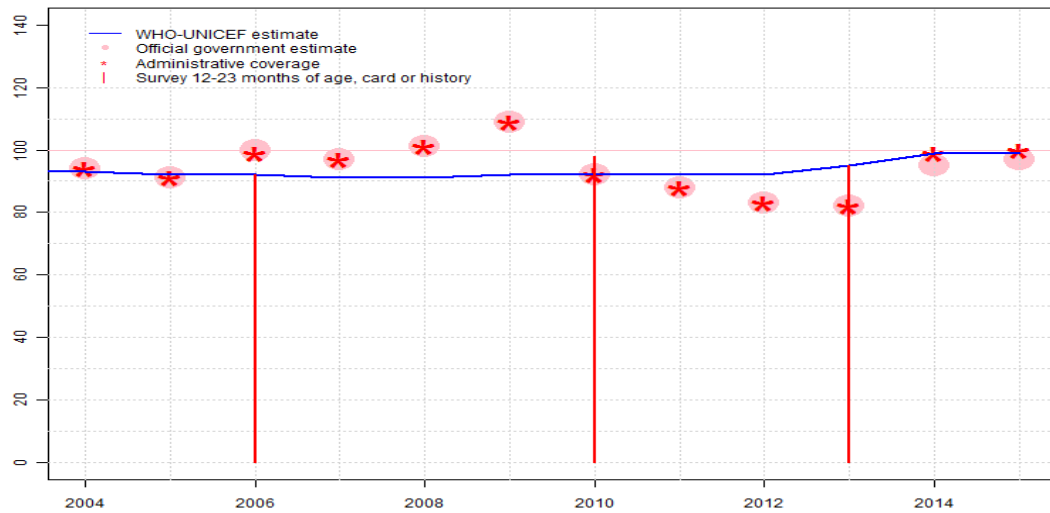


Zambia: WHO and UNICEF estimates of immunization coverage: 2015 revision



Zambia - BCG

ZMB - BCG



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	93	92	92	91	91	92	92	92	92	95	99	99
Estimate GoC	•	•	•	•	•	•	•	••	••	•	••	••
Official	94	91	100	97	101	109	92	88	83	82	95	97
Administrative	94	91	99	97	101	109	92	88	83	82	99	100
Survey	NA	NA	92	NA	NA	NA	98	NA	NA	95	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.

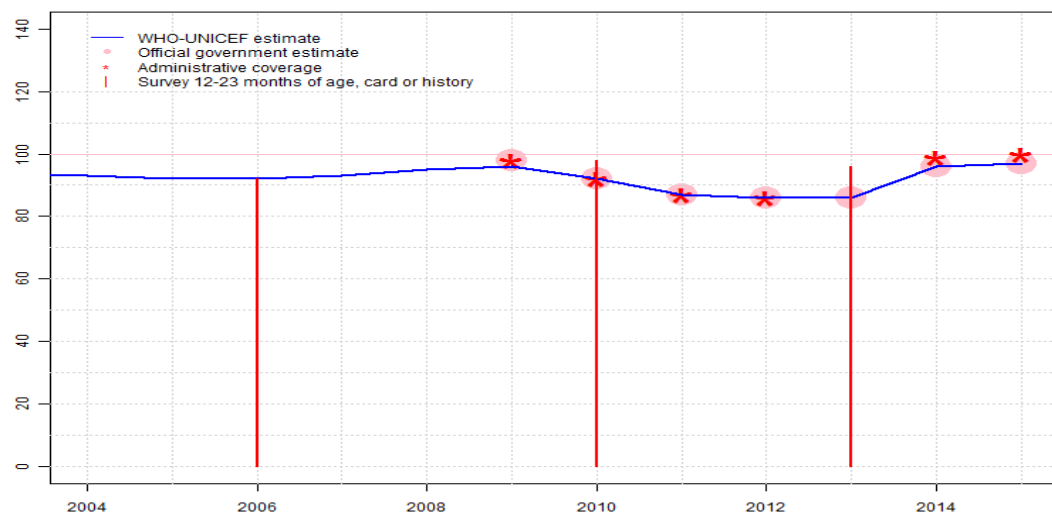
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2004: Estimate based on interpolation between 2001 and 2006 levels. Unexplained temporal change in numerator and denominator levels. Estimate challenged by: D-R-
- 2005: Estimate based on interpolation between 2001 and 2006 levels. Unexplained temporal change in numerator and denominator levels. Estimate challenged by: R-
- 2006: DTP3 and Pol3 estimates are based on survey results. BCG estimates based on survey to maintain consistency Estimate challenged by: D-R-
- 2007: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2008: Reported data calibrated to 2006 and 2010 levels. Reported data excluded. 101 percent greater than 100 percent. Estimate challenged by: D-
- 2009: Reported data calibrated to 2006 and 2010 levels. Reported data excluded. 109 percent greater than 100 percent. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). Estimate challenged by: D-
- 2011: Reported data calibrated to 2010 and 2013 levels. GoC=S+ D+
- 2012: Reported data calibrated to 2010 and 2013 levels. GoC=S+ D+
- 2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 95 percent based on 1 survey(s). Estimate challenged by: R-
- 2014: Reported data calibrated to 2013 levels. Official reported estimate is based on the results of the 2014 Demographic and Health Survey. Estimate of 99 percent changed from previous revision value of 95 percent. GoC=D+
- 2015: Reported data calibrated to 2013 levels. GoC=D+

Zambia - DTP1

ZMB - DTP1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	93	92	92	93	95	96	92	87	86	86	96	97
Estimate GoC	••	••	••	••	••	•	•••	•	•••	••	•••	•••
Official	NA	NA	NA	NA	NA	98	92	87	86	86	96	97
Administrative	NA	NA	NA	NA	NA	98	92	87	86	NA	99	100
Survey	NA	NA	92	NA	NA	NA	98	NA	NA	96	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.

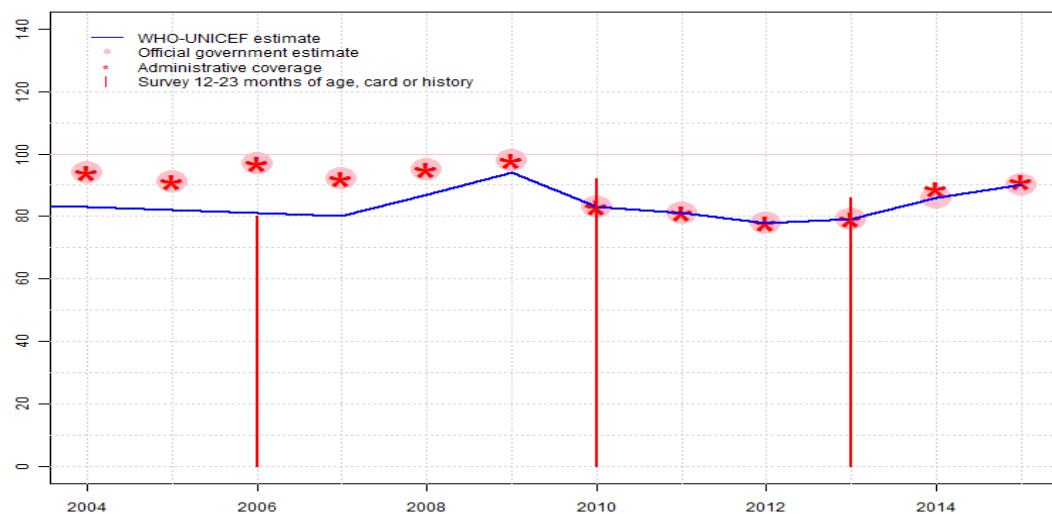
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2004: Estimate based on interpolation between 2001 and 2006 levels. Unexplained temporal change in numerator and denominator levels. GoC=S+
- 2005: Estimate based on interpolation between 2001 and 2006 levels. Unexplained temporal change in numerator and denominator levels. GoC=S+
- 2006: Estimate is based on survey results. GoC=S+
- 2007: Reported data calibrated to 2006 and 2010 levels. GoC=S+
- 2008: Reported data calibrated to 2006 and 2010 levels. GoC=S+
- 2009: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+ D+
- 2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). GoC=R+ S+ D+
- 2014: Estimate based on coverage reported by national government. Official reported estimate is based on the results of the 2014 Demographic and Health Survey. GoC=R+ S+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Zambia - DTP3

ZMB - DTP3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	83	82	81	80	87	94	83	81	78	79	86	90
Estimate GoC	•	•	•	•	•	•	••	•••	•••	•	•••	•••
Official	94	91	97	92	95	98	83	81	78	79	86	90
Administrative	94	91	97	92	95	98	83	81	78	79	89	91
Survey	NA	NA	80	NA	NA	NA	92	NA	NA	86	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.

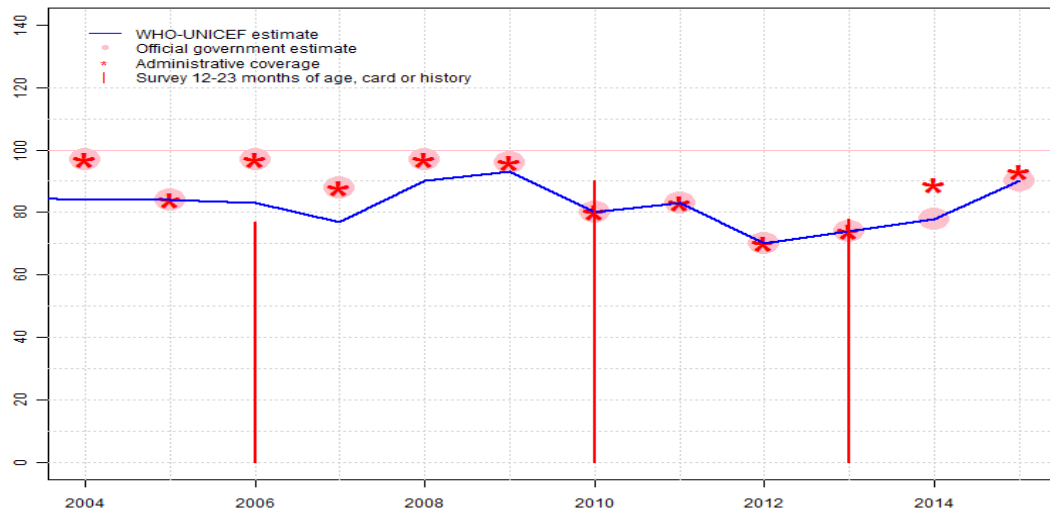
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2004: Estimate based on interpolation between 2001 and 2006 levels. Unexplained temporal change in numerator and denominator levels. Estimate challenged by: D-R-
- 2005: Estimate based on interpolation between 2001 and 2006 levels. Unexplained temporal change in numerator and denominator levels. Estimate challenged by: D-R-
- 2006: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 81 percent based on 1 survey(s). Zambia Demographic and Health Survey 2007 card or history results of 80 percent modified for recall bias to 81 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 76 percent and 3d dose card only coverage of 67 percent. Estimate challenged by: D-R-
- 2007: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2008: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2009: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2010: Reported coverage is confirmed or exceeded by survey. Expanded Program on Immunization Survey using the cluster survey methodology, Zambia, 2011 card or history results of 92 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 73 percent and 3d dose card only coverage of 71 percent. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 87 percent based on 1 survey(s). Zambia Demographic and Health Survey, 2013-14 card or history results of 86 percent modified for recall bias to 87 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 79 percent and 3d dose card only coverage of 72 percent. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Official reported estimate is based on the results of the 2014 Demographic and Health Survey. GoC=R+ S+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Zambia - Pol3

ZMB - Pol3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	84	84	83	77	90	93	80	83	70	74	78	90
Estimate GoC	•	•	•	•	•	•	••	•	••	•	•	•••
Official	97	84	97	88	97	96	80	83	70	74	78	90
Administrative	97	84	97	88	97	96	80	83	70	74	89	93
Survey	NA	NA	77	NA	NA	NA	90	NA	NA	78	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.

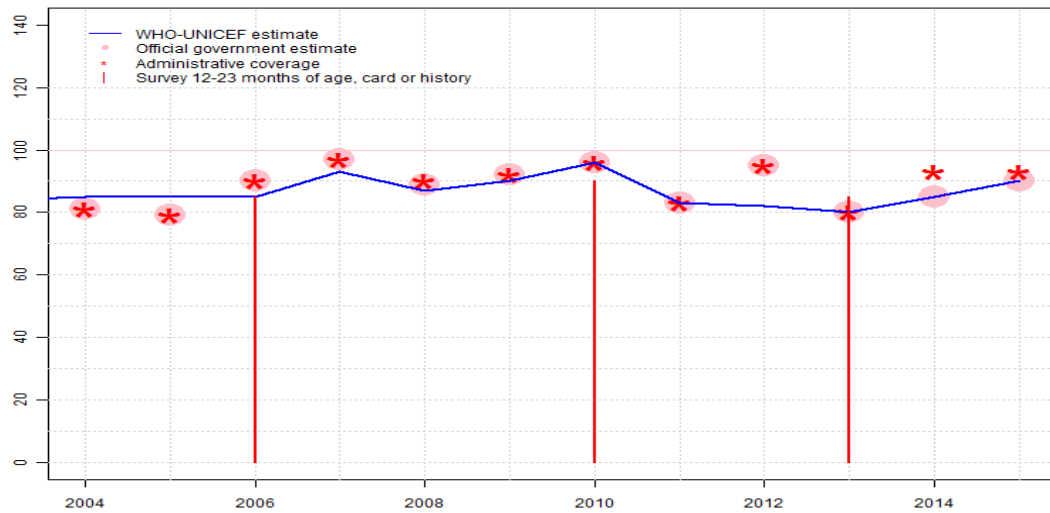
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2004: Estimate based on interpolation between 2001 and 2006 levels. Unexplained temporal change in numerator and denominator levels. Estimate challenged by: D-R-
- 2005: Estimate based on interpolation between 2001 and 2006 levels. Unexplained temporal change in numerator and denominator levels. Reported data excluded. Decline in reported coverage from 97 percent to 84 percent with increase to 97 percent. Estimate challenged by: D-R-
- 2006: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 83 percent based on 1 survey(s). Zambia Demographic and Health Survey 2007 card or history results of 77 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 77 percent and 3d dose card only coverage of 68 percent. Estimate challenged by: D-R-
- 2007: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2008: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2009: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2010: Reported coverage is confirmed or exceeded by survey. Expanded Program on Immunization Survey using the cluster survey methodology, Zambia, 2011 card or history results of 90 percent modified for recall bias to 94 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 73 percent and 3d dose card only coverage of 70 percent. Decline in coverage attributable to vaccine shortage for one month. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). Zambia Demographic and Health Survey, 2013-14 card or history results of 78 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 80 percent and 3d dose card only coverage of 69 percent. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Official reported estimate is based on the results of the 2014 Demographic and Health Survey. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. Vaccine to vaccine consistency. GoC=R+ S+ D+

Zambia - MCV1

ZMB - MCV1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	85	85	85	93	87	90	96	83	82	80	85	90
Estimate GoC	•	•	•	••	•	•	•••	•••	•	•	•	•••
Official	81	79	90	97	89	92	96	83	95	80	85	90
Administrative	81	79	90	97	90	92	96	83	95	80	93	93
Survey	NA	NA	85	NA	NA	NA	90	NA	NA	85	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.

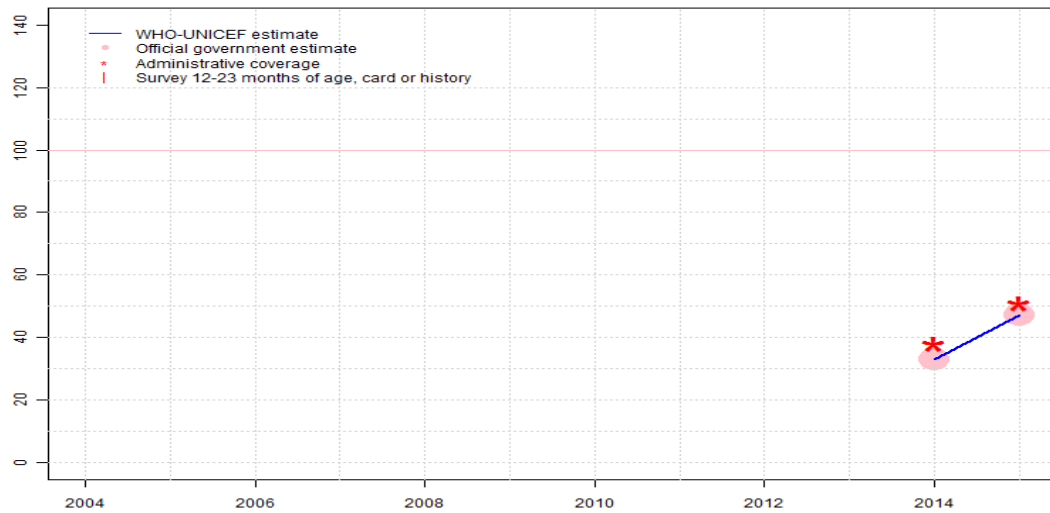
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2004: Estimate based on interpolation between 2001 and 2006 levels. Unexplained temporal change in numerator and denominator levels. Estimate challenged by: R-
- 2005: Estimate based on interpolation between 2001 and 2006 levels. Unexplained temporal change in numerator and denominator levels. Estimate challenged by: R-
- 2006: DTP3 and Pol3 estimates are based on survey results. MCV estimates based on survey to maintain consistency Estimate challenged by: R-
- 2007: Reported data calibrated to 2006 and 2010 levels. GoC=S+ D+
- 2008: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2009: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government supported by survey. Survey evidence of 90 percent based on 1 survey(s). GoC=R+ S+ D+
- 2011: Estimate based on coverage reported by national government. Estimate is based on reported data. Consistency with other antigens. GoC=R+ S+ D+
- 2012: Estimate based on interpolation between coverage reported by national government. Reported data excluded. Unexplained increase from 83 percent to 95 percent with decrease 80 percent. Reported coverage likely includes doses administered during national supplemental activities. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 85 percent based on 1 survey(s). Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Official reported estimate is based on the results of the 2014 Demographic and Health Survey. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Zambia - MCV2

ZMB - MCV2



Description:

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

2014: Estimate based on coverage reported by national government. Official reported estimate is based on the results of the 2014 Demographic and Health Survey. Second dose of measles containing vaccine introduced during 2014. GoC=R+ D+

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

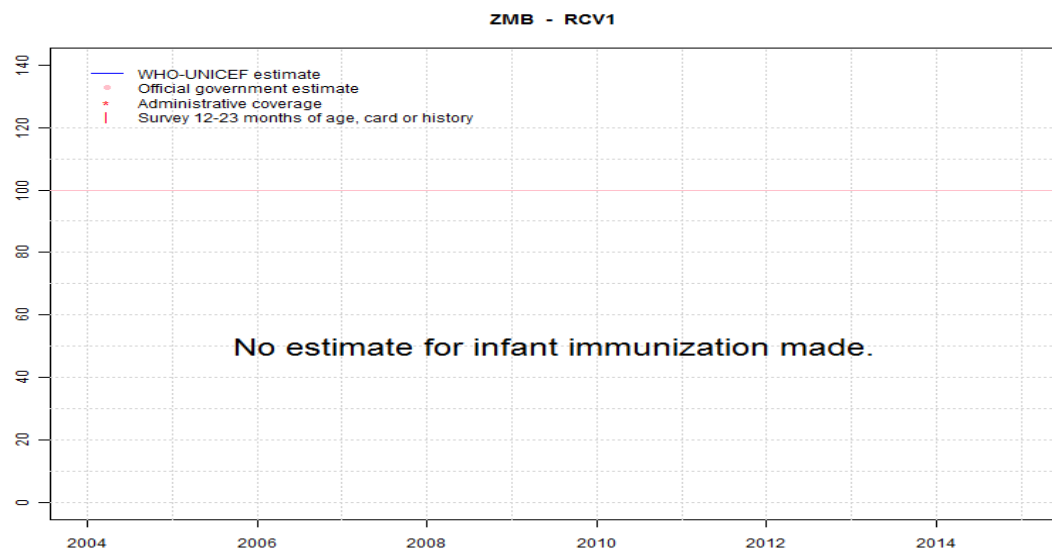
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	47
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	••	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	47
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38	51
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

Zambia - RCV1



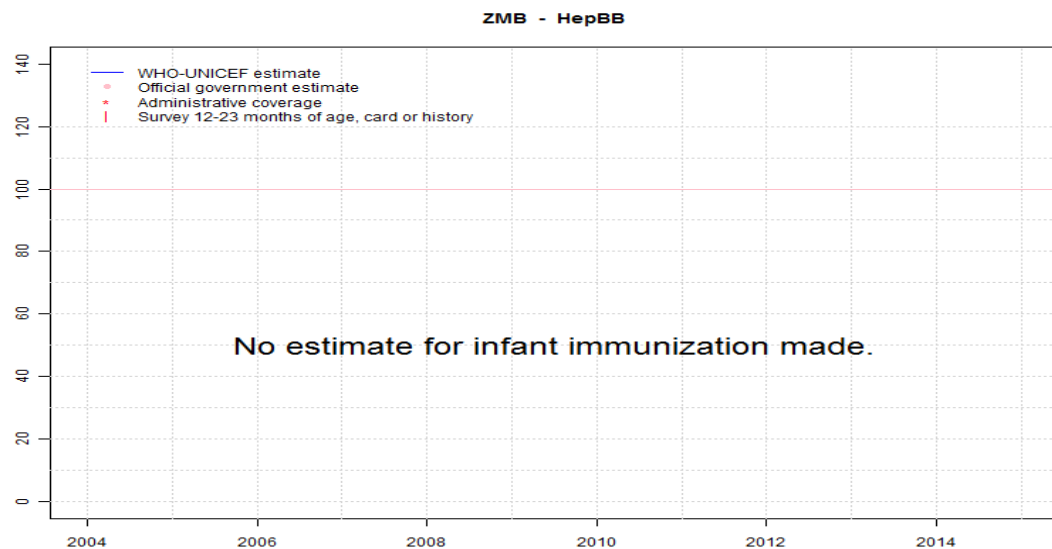
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

Zambia - HepBB



	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

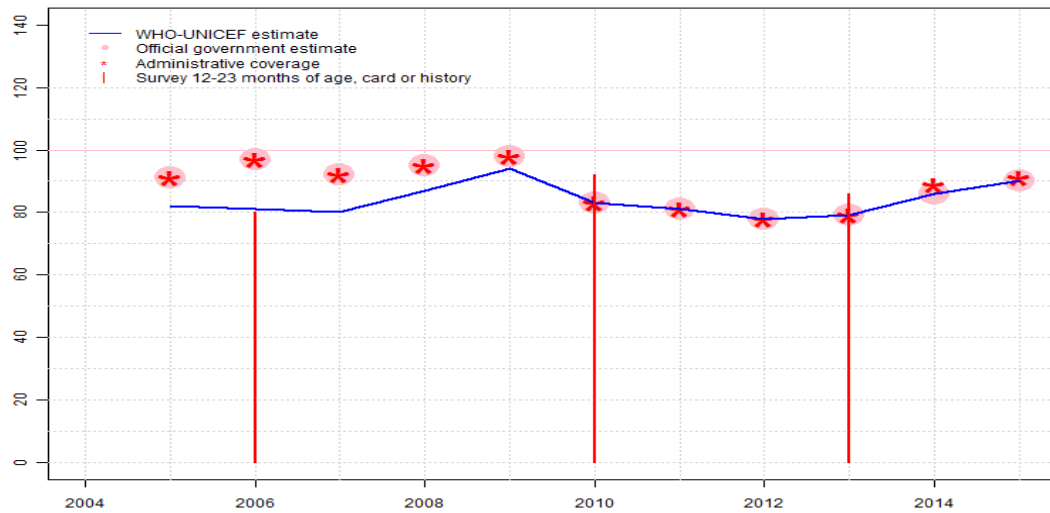
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Zambia - HepB3

ZMB - HepB3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	82	81	80	87	94	83	81	78	79	86	90
Estimate GoC	NA	●	●	●	●	●	●●	●●●	●●●	●	●●●	●●●
Official	NA	91	97	92	95	98	83	81	78	79	86	90
Administrative	NA	91	97	92	95	98	83	81	78	79	89	91
Survey	NA	NA	80	NA	NA	NA	92	NA	NA	86	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.

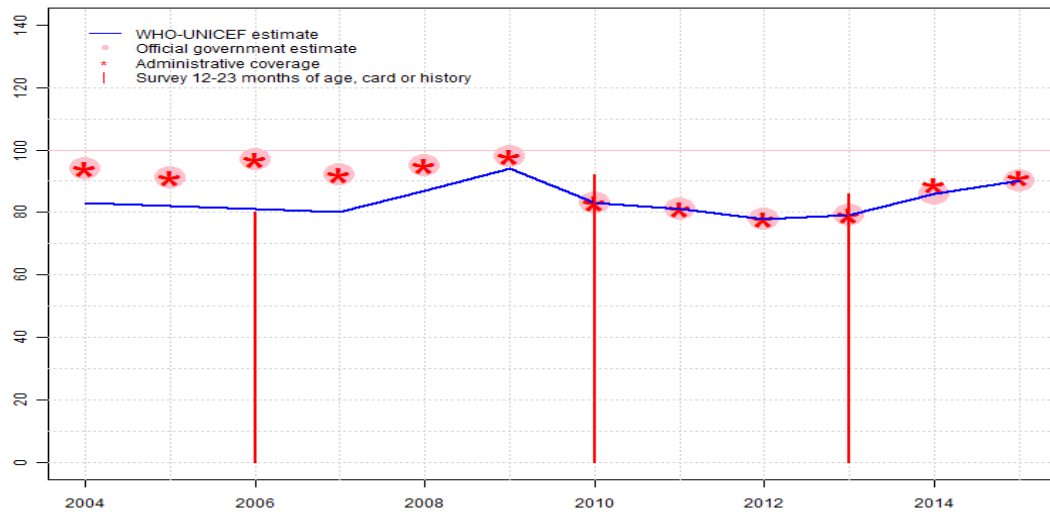
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2005: Estimate based on DTP3 estimate. HepB vaccine introduced in 2005 Vaccine presentation is DTP-HepB-Hib. Estimate challenged by: D-R-
- 2006: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 81 percent based on 1 survey(s). Zambia Demographic and Health Survey 2007 card or history results of 80 percent modified for recall bias to 81 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 76 percent and 3d dose card only coverage of 67 percent. Estimate challenged by: D-R-
- 2007: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2008: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2009: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2010: Reported coverage is confirmed or exceeded by survey. Expanded Program on Immunization Survey using the cluster survey methodology, Zambia, 2011 card or history results of 92 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 73 percent and 3d dose card only coverage of 71 percent. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 87 percent based on 1 survey(s). Zambia Demographic and Health Survey, 2013-14 card or history results of 86 percent modified for recall bias to 87 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 79 percent and 3d dose card only coverage of 72 percent. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Official reported estimate is based on the results of the 2014 Demographic and Health Survey. GoC=R+ S+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Zambia - Hib3

ZMB - Hib3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	83	82	81	80	87	94	83	81	78	79	86	90
Estimate GoC	•	•	•	•	•	•	••	•••	•••	•	•••	•••
Official	94	91	97	92	95	98	83	81	78	79	86	90
Administrative	94	91	97	92	95	98	83	81	78	79	89	91
Survey	NA	NA	80	NA	NA	NA	92	NA	NA	86	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.

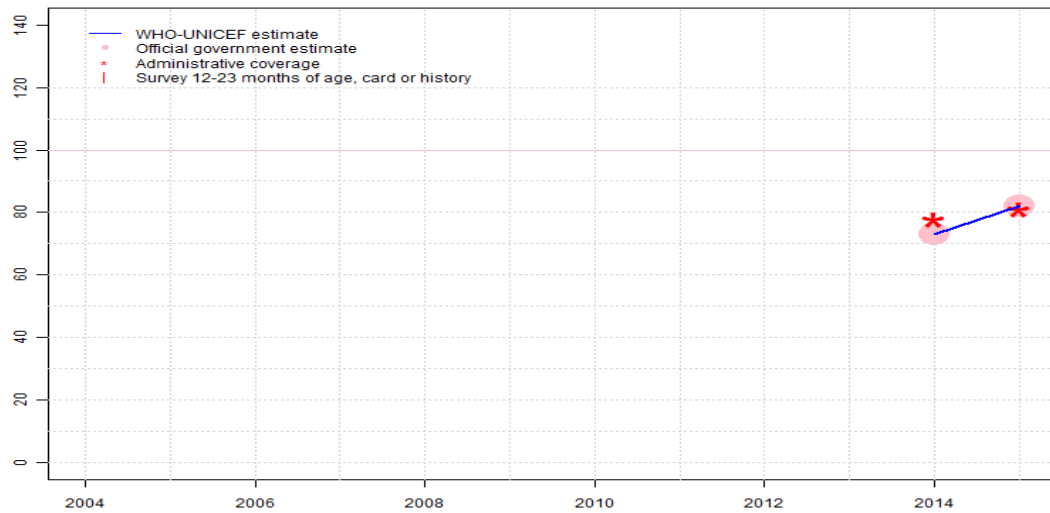
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2004: Estimate based on DTP3 estimate. Hib vaccine introduced in 2004 Vaccine presentation is DTP-HepB-Hib. Estimate challenged by: D-R-
- 2005: Estimate based on interpolation between 2004 and 2006 levels. Unexplained temporal change in numerator and denominator levels. Estimate challenged by: D-R-
- 2006: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 81 percent based on 1 survey(s). Zambia Demographic and Health Survey 2007 card or history results of 80 percent modified for recall bias to 81 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 76 percent and 3d dose card only coverage of 67 percent. Estimate challenged by: D-R-
- 2007: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2008: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2009: Reported data calibrated to 2006 and 2010 levels. Estimate challenged by: D-
- 2010: Reported coverage is confirmed or exceeded by survey. Expanded Program on Immunization Survey using the cluster survey methodology, Zambia, 2011 card or history results of 92 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 73 percent and 3d dose card only coverage of 71 percent. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 87 percent based on 1 survey(s). Zambia Demographic and Health Survey, 2013-14 card or history results of 86 percent modified for recall bias to 87 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 79 percent and 3d dose card only coverage of 72 percent. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Official reported estimate is based on the results of the 2014 Demographic and Health Survey. GoC=R+ S+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Zambia - RotaC

ZMB - RotaC



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	73	82
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	●●	●●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	73	82
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	78	81
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.

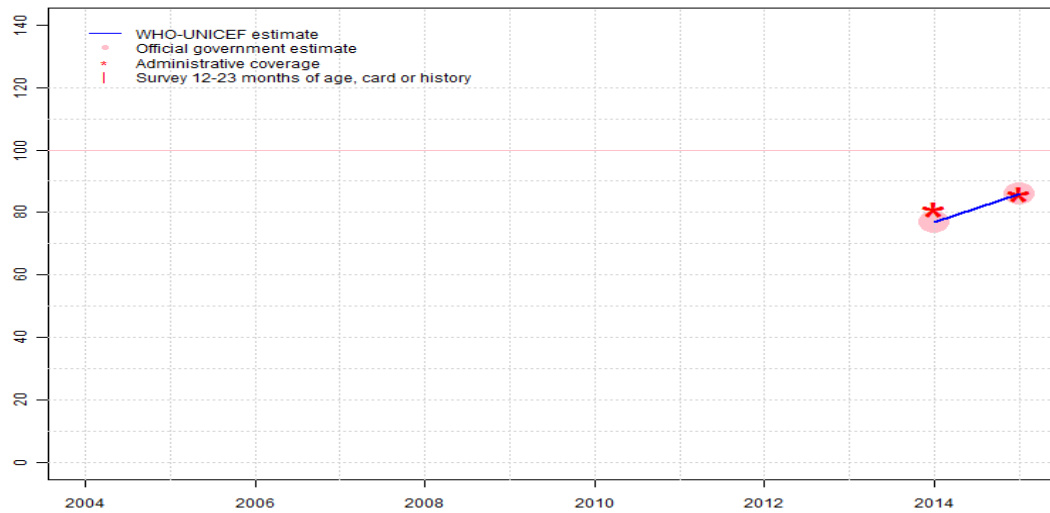
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2014: Estimate based on coverage reported by national government. Official reported estimate is based on the results of the 2014 Demographic and Health Survey. Rotavirus vaccine introduced during 2013. Reporting began during 2014. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+

Zambia - PcV3

ZMB - PcV3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77	86
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	●●	●●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77	86
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	81	86
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:

- 2014: Estimate based on coverage reported by national government. Official reported estimate is based on the results of the 2014 Demographic and Health Survey. Pneumococcal conjugate vaccine introduced during 2014. reporting began in 2014. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+

Zambia - survey details

2013 Zambia Demographic and Health Survey, 2013-14

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	94	12-23 m	2575	80
BCG	Card	78	12-23 m	2069	80
BCG	Card or History	95	12-23 m	2575	80
BCG	History	17	12-23 m	506	80
DTP1	C or H <12 months	95	12-23 m	2575	80
DTP1	Card	79	12-23 m	2069	80
DTP1	Card or History	96	12-23 m	2575	80
DTP1	History	17	12-23 m	506	80
DTP3	C or H <12 months	82	12-23 m	2575	80
DTP3	Card	72	12-23 m	2069	80
DTP3	Card or History	86	12-23 m	2575	80
DTP3	History	14	12-23 m	506	80
HepB1	C or H <12 months	95	12-23 m	2575	80
HepB1	Card	79	12-23 m	2069	80
HepB1	Card or History	96	12-23 m	2575	80
HepB1	History	17	12-23 m	506	80
HepB3	C or H <12 months	82	12-23 m	2575	80
HepB3	Card	72	12-23 m	2069	80
HepB3	Card or History	86	12-23 m	2575	80
HepB3	History	14	12-23 m	506	80
Hib1	C or H <12 months	95	12-23 m	2575	80
Hib1	Card	79	12-23 m	2069	80
Hib1	Card or History	96	12-23 m	2575	80
Hib1	History	17	12-23 m	506	80
Hib3	C or H <12 months	82	12-23 m	2575	80
Hib3	Card	72	12-23 m	2069	80
Hib3	Card or History	86	12-23 m	2575	80
Hib3	History	14	12-23 m	506	80
MCV1	C or H <12 months	72	12-23 m	2575	80
MCV1	Card	70	12-23 m	2069	80
MCV1	Card or History	85	12-23 m	2575	80
MCV1	History	15	12-23 m	506	80
Pol1	Card	80	12-23 m	2069	80
Pol1	Card or History	96	12-23 m	2575	80
Pol1	History	17	12-23 m	506	80
Pol3	Card	69	12-23 m	2069	80
Pol3	Card or History	78	12-23 m	2575	80

Pol3 History 8 12-23 m 506 80

2012 Zambia Demographic and Health Survey, 2013-14

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	94	24-35 m	2507	80
DTP1	C or H <12 months	94	24-35 m	2507	80
DTP3	C or H <12 months	84	24-35 m	2507	80
HepB1	C or H <12 months	94	24-35 m	2507	80
HepB3	C or H <12 months	84	24-35 m	2507	80
Hib1	C or H <12 months	94	24-35 m	2507	80
Hib3	C or H <12 months	84	24-35 m	2507	80
MCV1	C or H <12 months	72	24-35 m	2507	80
Pol1	C or H <12 months	95	24-35 m	2507	80
Pol3	C or H <12 months	76	24-35 m	2507	80

2011 Zambia Demographic and Health Survey, 2013-14

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	92	36-47 m	2447	80
DTP1	C or H <12 months	92	36-47 m	2447	80
DTP3	C or H <12 months	80	36-47 m	2447	80
HepB1	C or H <12 months	92	36-47 m	2447	80
HepB3	C or H <12 months	80	36-47 m	2447	80
Hib1	C or H <12 months	92	36-47 m	2447	80
Hib3	C or H <12 months	80	36-47 m	2447	80
MCV1	C or H <12 months	74	36-47 m	2447	80
Pol1	C or H <12 months	92	36-47 m	2447	80
Pol3	C or H <12 months	72	36-47 m	2447	80

2010 Expanded Program on Immunization Survey using the cluster survey methodology, Zambia, 2011

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	73	12-23 m	1890	77
BCG	Card or History	98	12-23 m	1890	77

Zambia - survey details

DTP1	Card	73	12-23 m	1890	77
DTP1	Card or History	98	12-23 m	1890	77
DTP3	Card	71	12-23 m	1890	77
DTP3	Card or History	92	12-23 m	1890	77
HepB1	Card	73	12-23 m	1890	77
HepB1	Card or History	98	12-23 m	1890	77
HepB3	Card	71	12-23 m	1890	77
HepB3	Card or History	92	12-23 m	1890	77
Hib1	Card	73	12-23 m	1890	77
Hib1	Card or History	98	12-23 m	1890	77
Hib3	Card	71	12-23 m	1890	77
Hib3	Card or History	92	12-23 m	1890	77
MCV1	Card	67	12-23 m	1890	77
MCV1	Card or History	90	12-23 m	1890	77
Pol1	Card	73	12-23 m	1890	77
Pol1	Card or History	98	12-23 m	1890	77
Pol3	Card	70	12-23 m	1890	77
Pol3	Card or History	90	12-23 m	1890	77

BCG	Card	76	12-23 m	1272	78
BCG	Card or History	92	12-23 m	1272	78
BCG	History	16	12-23 m	1272	78
DTP1	C or H <12 months	91	12-23 m	1272	78
DTP1	Card	76	12-23 m	1272	78
DTP1	Card or History	92	12-23 m	1272	78
DTP1	History	16	12-23 m	1272	78
DTP3	C or H <12 months	77	12-23 m	1272	78
DTP3	Card	67	12-23 m	1272	78
DTP3	Card or History	80	12-23 m	1272	78
DTP3	History	13	12-23 m	1272	78
HepB1	C or H <12 months	91	12-23 m	1272	78
HepB1	Card	76	12-23 m	1272	78
HepB1	Card or History	92	12-23 m	1272	78
HepB1	History	16	12-23 m	1272	78
HepB3	C or H <12 months	77	12-23 m	1272	78
HepB3	Card	67	12-23 m	1272	78
HepB3	Card or History	80	12-23 m	1272	78
HepB3	History	13	12-23 m	1272	78
Hib1	C or H <12 months	91	12-23 m	1272	78
Hib1	Card	76	12-23 m	1272	78
Hib1	Card or History	92	12-23 m	1272	78
Hib1	History	16	12-23 m	1272	78
Hib3	C or H <12 months	77	12-23 m	1272	78
Hib3	Card	67	12-23 m	1272	78
Hib3	Card or History	80	12-23 m	1272	78
Hib3	History	13	12-23 m	1272	78
MCV1	C or H <12 months	69	12-23 m	1272	78
MCV1	Card	70	12-23 m	1272	78
MCV1	Card or History	85	12-23 m	1272	78
MCV1	History	15	12-23 m	1272	78
Pol1	C or H <12 months	92	12-23 m	1272	78
Pol1	Card	77	12-23 m	1272	78
Pol1	Card or History	94	12-23 m	1272	78
Pol1	History	16	12-23 m	1272	78
Pol3	C or H <12 months	74	12-23 m	1272	78
Pol3	Card	68	12-23 m	1272	78
Pol3	Card or History	77	12-23 m	1272	78
Pol3	History	9	12-23 m	1272	78

2010 Zambia Demographic and Health Survey, 2013-14

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	93	48-59 m	2627	80
DTP1	C or H <12 months	93	48-59 m	2627	80
DTP3	C or H <12 months	81	48-59 m	2627	80
HepB1	C or H <12 months	93	48-59 m	2627	80
HepB3	C or H <12 months	81	48-59 m	2627	80
Hib1	C or H <12 months	93	48-59 m	2627	80
Hib3	C or H <12 months	81	48-59 m	2627	80
MCV1	C or H <12 months	70	48-59 m	2627	80
Pol1	C or H <12 months	94	48-59 m	2627	80
Pol3	C or H <12 months	70	48-59 m	2627	80

2006 Zambia Demographic and Health Survey 2007

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	90	12-23 m	1272	78

Zambia - survey details

2001 Zambia Demographic and Health Survey 2001-2002

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	91	12-23 m	1299	80
BCG	Card	78	12-23 m	1299	80
BCG	Card or History	94	12-23 m	1299	80
BCG	History	16	12-23 m	1299	80
DTP1	C or H <12 months	92	12-23 m	1299	80
DTP1	Card	78	12-23 m	1299	80
DTP1	Card or History	94	12-23 m	1299	80
DTP1	History	16	12-23 m	1299	80
DTP3	C or H <12 months	74	12-23 m	1299	80
DTP3	Card	71	12-23 m	1299	80
DTP3	Card or History	80	12-23 m	1299	80
DTP3	History	9	12-23 m	1299	80
MCV1	C or H <12 months	70	12-23 m	1299	80
MCV1	Card	70	12-23 m	1299	80
MCV1	Card or History	84	12-23 m	1299	80
MCV1	History	14	12-23 m	1299	80
Pol1	C or H <12 months	94	12-23 m	1299	80
Pol1	Card	79	12-23 m	1299	80
Pol1	Card or History	96	12-23 m	1299	80
Pol1	History	17	12-23 m	1299	80
Pol3	C or H <12 months	73	12-23 m	1299	80
Pol3	Card	71	12-23 m	1299	80
Pol3	Card or History	80	12-23 m	1299	80
Pol3	History	9	12-23 m	1299	80

2000 Zambia EPI Cluster Survey Report 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	92	12-23 m	221	83
DTP1	Card or History	93	12-23 m	221	83
DTP3	Card or History	78	12-23 m	221	83
MCV1	Card	85	12-23 m	221	83
Pol1	Card or History	92	12-23 m	221	83
Pol3	Card or History	79	12-23 m	221	83

1998 Zambia 1999 Multiple Indicator Cluster Survey

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	52	12-23 m	328	-
BCG	History	13	12-23 m	328	-
DTP1	Card	61	12-23 m	328	-
DTP1	History	21	12-23 m	328	-
DTP3	Card	56	12-23 m	328	-
DTP3	History	8	12-23 m	328	-
MCV1	Card	57	12-23 m	328	-
MCV1	History	17	12-23 m	328	-
Pol1	Card	64	12-23 m	328	-
Pol1	History	22	12-23 m	328	-
Pol3	Card	59	12-23 m	328	-
Pol3	History	17	12-23 m	328	-

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

Zambia

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	90
2005	91
2006	90
2007	89
2008	90
2009	90
2010	90
2011	81
2012	81
2013	81
2014	85
2015	85

¹ 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.