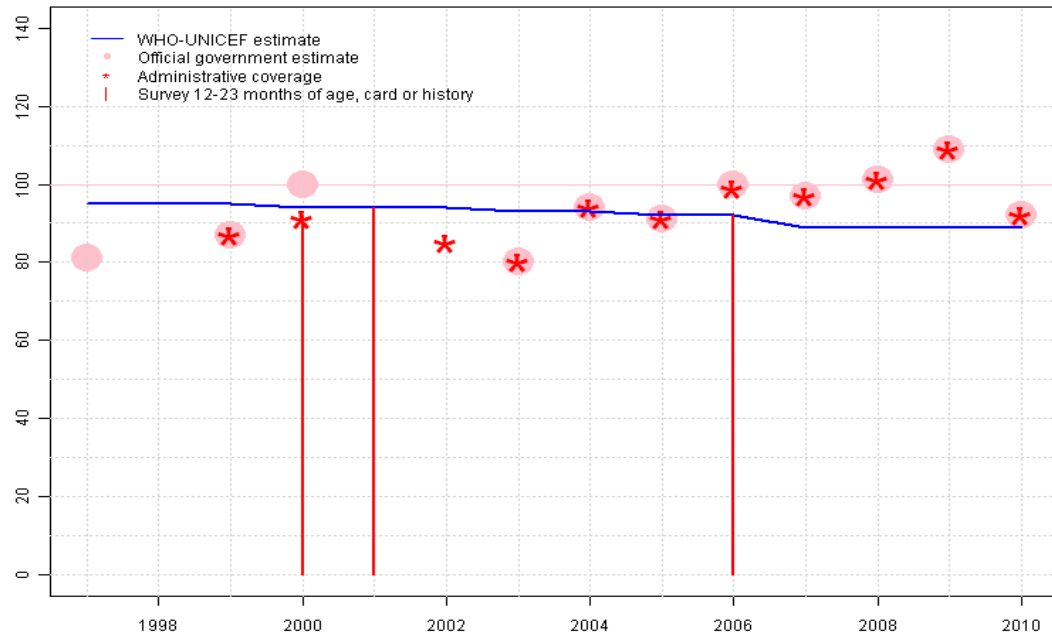


Zambia - BCG

ZMB - BCG



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estimate	95	95	95	94	94	94	93	93	92	92	89	89	89	89
Official	81	NA	87	100	NA	NA	80	94	91	100	97	101	109	92
Administrative	NA	NA	87	91	NA	85	80	94	91	99	97	101	109	92
Survey	NA	NA	NA	92	94	NA	NA	NA	NA	92	NA	NA	NA	NA

Description:

1997: Legacy estimate.

1998: Estimate based on interpolation between 1997 and 2001. Unexplained temporal change in numerator and denominator levels.

1999: Estimate based on interpolation between 1997 and 2001. Unexplained temporal change in numerator and denominator levels.

2000: Estimate based on interpolation between 1997 and 2001. Survey results not accepted. Sample size 221 less than 300. Unexplained temporal change in numerator and denominator levels.

2001: DTP3 and Pol3 estimates are based on survey results. BCG estimates based on survey to maintain consistency

2002: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.

2003: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.

2004: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.

2005: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.

2006: DTP3 and Pol3 estimates are based on survey results. BCG estimates based on survey to maintain consistency

2007: Reported data 97 percent calibrated to 2006 levels. Current estimate of 89 percent changed from previous revision value of 92 percent.

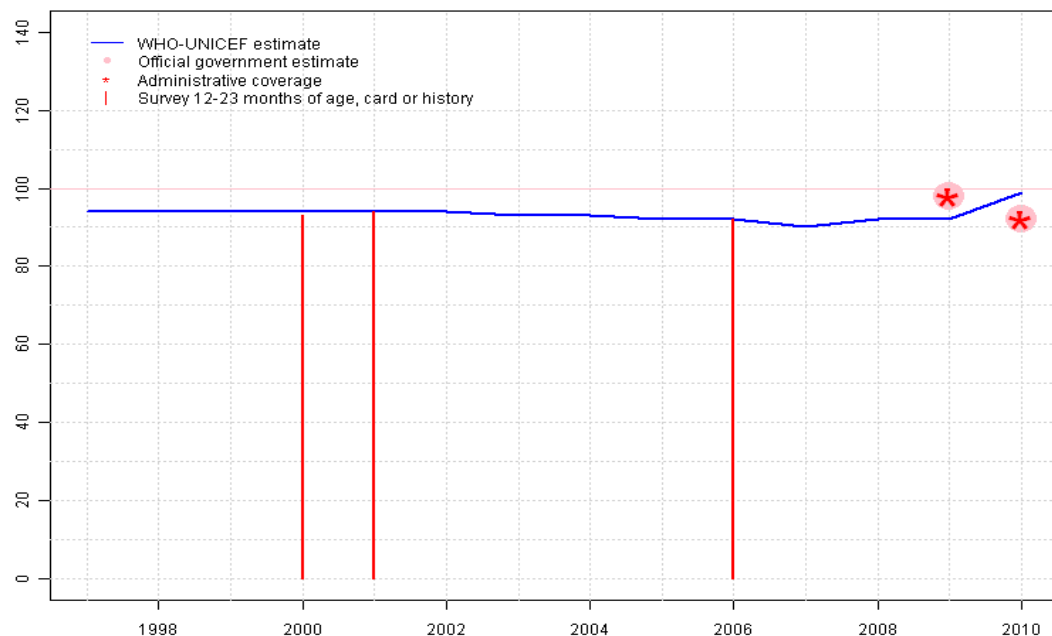
2008: Estimate based on extrapolation from 2007 value of 89 percent. Reported data of 101 percent greater than 100 percent. Current estimate of 89 percent changed from previous revision value of 92 percent.

2009: Estimate based on extrapolation from 2007 value of 89 percent. Reported data of 109 percent greater than 100 percent. Current estimate of 89 percent changed from previous revision value of 92 percent.

2010: Estimate based on extrapolation from 2007 value of 89 percent. Reported data not accepted due to a change from 109 level to 92 percent.

Zambia - DTP1

ZMB - DTP1



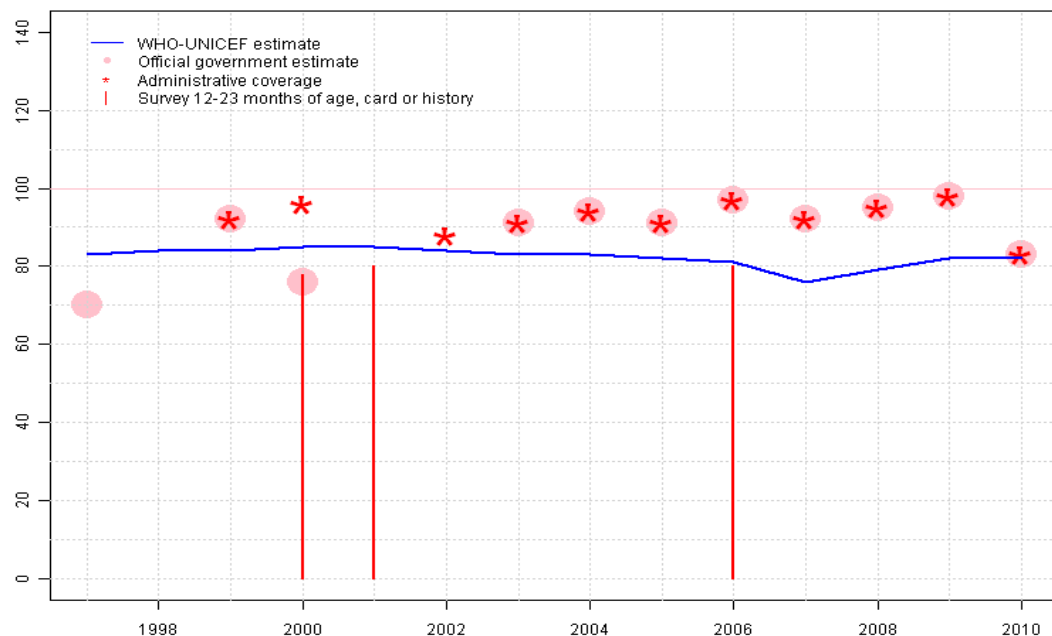
Description:

- 1997: Legacy estimate.
- 1998: Estimate based on interpolation between 1997 and 2001. Unexplained temporal change in numerator and denominator levels.
- 1999: Estimate based on interpolation between 1997 and 2001. Unexplained temporal change in numerator and denominator levels.
- 2000: Estimate based on interpolation between 1997 and 2001. Survey results not accepted. Sample size 221 less than 300. Unexplained temporal change in numerator and denominator levels.
- 2001: Estimate is based on survey results.
- 2002: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.
- 2003: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.
- 2004: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.
- 2005: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.
- 2006: Estimate is based on survey results.
- 2007: No DTP1 data. Estimate based on DTP3 coverage of 76. Current estimate of 90 percent changed from previous revision value of 92 percent.
- 2008: No DTP1 data. Estimate based on DTP3 coverage of 79.
- 2009: Reported data 98 percent calibrated to 2006 levels. Reported data of 98 percent estimated by extrapolating from 2009
- 2010: Estimated DTP3 coverage of 98 percent greater than DTP1 coverage of 86 percent. Estimated based on relationship between DTP1 and DTP3.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estimate	94	94	94	94	94	94	93	93	92	92	90	92	92	99
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	98	92
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	98	92
Survey	NA	NA	NA	93	94	NA	NA	NA	NA	92	NA	NA	NA	NA

Zambia - DTP3

ZMB - DTP3



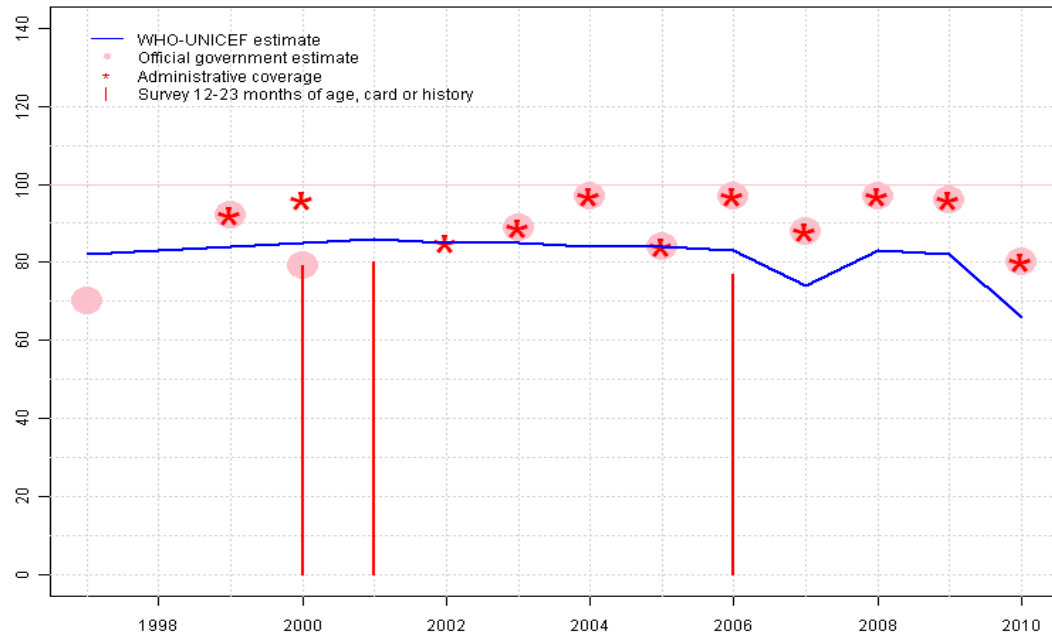
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estimate	83	84	84	85	85	84	83	83	82	81	76	79	82	82
Official	70	NA	92	76	NA	NA	91	94	91	97	92	95	98	83
Administrative	NA	NA	92	96	NA	88	91	94	91	97	92	95	98	83
Survey	NA	NA	NA	78	80	NA	NA	NA	NA	80	NA	NA	NA	NA

Description:

- 1997: Legacy estimate.
- 1998: Estimate based on interpolation between 1997 and 2001. Unexplained temporal change in numerator and denominator levels.
- 1999: Estimate based on interpolation between 1997 and 2001. Unexplained temporal change in numerator and denominator levels.
- 2000: Estimate based on interpolation between 1997 and 2001. Survey results not accepted. Sample size 221 less than 300. Unexplained temporal change in numerator and denominator levels.
- 2001: Estimate is based on survey results. Survey results of 80 percent modified for recall bias to 86 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 78 percent and 3d dose card only coverage of 71 percent.
- 2002: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.
- 2003: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.
- 2004: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.
- 2005: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.
- 2006: Estimate based on survey results. 81 percent survey results does not support reported data of 97 percent. Survey 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.
- 2007: Reported data 92 percent calibrated to 2006 levels. Current estimate of 76 percent changed from previous revision value of 81 percent.
- 2008: Reported data 95 percent calibrated to 2006 levels. Current estimate of 79 percent changed from previous revision value of 81 percent.
- 2009: Reported data 98 percent calibrated to 2006 levels. Current estimate of 82 percent changed from previous revision value of 81 percent.
- 2010: Estimate based on extrapolation from 2009 value of 82 percent. Reported data not accepted due to a change from 98 level to 83 percent.

Zambia - Pol3

ZMB - Pol3



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estimate	82	83	84	85	86	85	85	84	84	83	74	83	82	66
Official	70	NA	92	79	NA	NA	89	97	84	97	88	97	96	80
Administrative	NA	NA	92	96	NA	85	89	97	84	97	88	97	96	80
Survey	NA	NA	NA	79	80	NA	NA	NA	NA	77	NA	NA	NA	NA

Description:

1997: Legacy estimate.

1998: Estimate based on interpolation between 1997 and 2001. Unexplained temporal change in numerator and denominator levels.

1999: Estimate based on interpolation between 1997 and 2001. Unexplained temporal change in numerator and denominator levels.

2000: Estimate based on interpolation between 1997 and 2001. Survey results not accepted. Sample size 221 less than 300. Unexplained temporal change in numerator and denominator levels.

2001: Estimate is based on survey results. Survey results of 80 percent modified for recall bias to 86 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 71 percent.

2002: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.

2003: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.

2004: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.

2005: Estimate based on interpolation between 2001 and 2006. Reported data not accepted due to a decline from 97 percent to 84 percent with a subsequent increase to 97 percent. Unexplained temporal change in numerator and denominator levels.

2006: Estimate based on survey results. 83 percent survey results does not support reported data of 97 percent. Survey 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.

2007: Reported data 88 percent calibrated to 2006 levels. Current estimate of 74 percent changed from previous revision value of 83 percent.

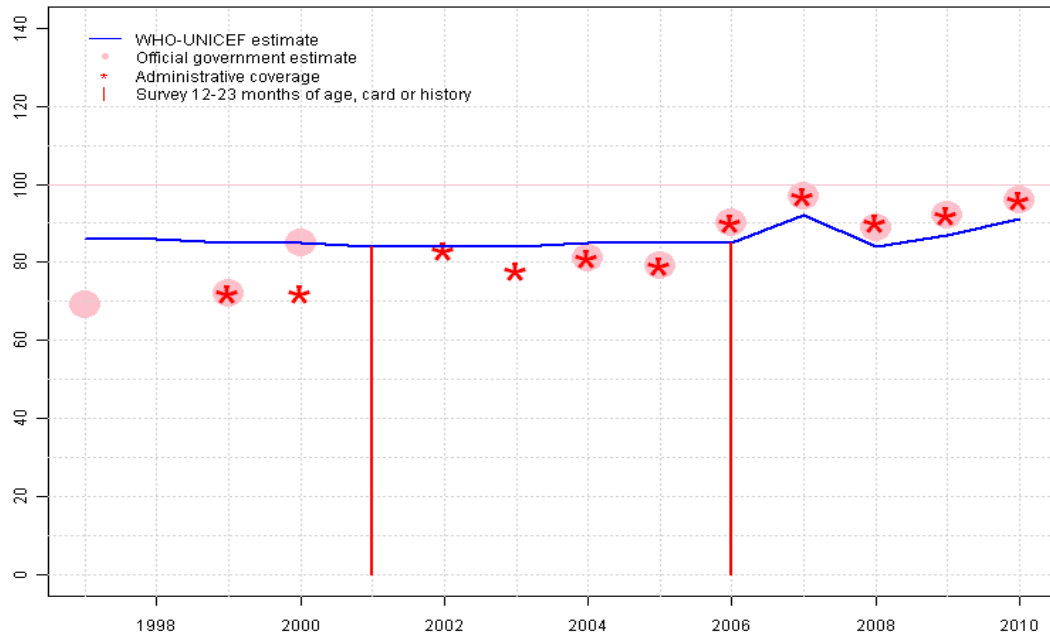
2008: Reported data 97 percent calibrated to 2006 levels.

2009: Reported data 96 percent calibrated to 2006 levels. Current estimate of 82 percent changed from previous revision value of 83 percent.

2010: Reported data 80 percent calibrated to 2006 levels. Decline in coverage attributable to vaccine shortage for one month.

Zambia - MCV

ZMB - MCV



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estimate	86	86	85	85	84	84	84	85	85	85	92	84	87	91
Official	69	NA	72	85	NA	NA	NA	81	79	90	97	89	92	96
Administrative	NA	NA	72	72	NA	83	78	81	79	90	97	90	92	96
Survey	NA	NA	NA	NA	84	NA	NA	NA	NA	85	NA	NA	NA	NA

Description:

1997: Legacy estimate.

1998: Estimate based on interpolation between 1997 and 2001. Unexplained temporal change in numerator and denominator levels.

1999: Estimate based on interpolation between 1997 and 2001. Unexplained temporal change in numerator and denominator levels.

2000: Estimate based on interpolation between 1997 and 2001. Unexplained temporal change in numerator and denominator levels.

2001: DTP3 and Pol3 estimates are based on survey results. MCV estimates based on survey to maintain consistency

2002: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.

2003: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.

2004: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.

2005: Estimate based on interpolation between 2001 and 2006. Unexplained temporal change in numerator and denominator levels.

2006: DTP3 and Pol3 estimates are based on survey results. MCV estimates based on survey to maintain consistency

2007: Reported data 97 percent calibrated to 2006 levels. Current estimate of 92 percent changed from previous revision value of 85 percent.

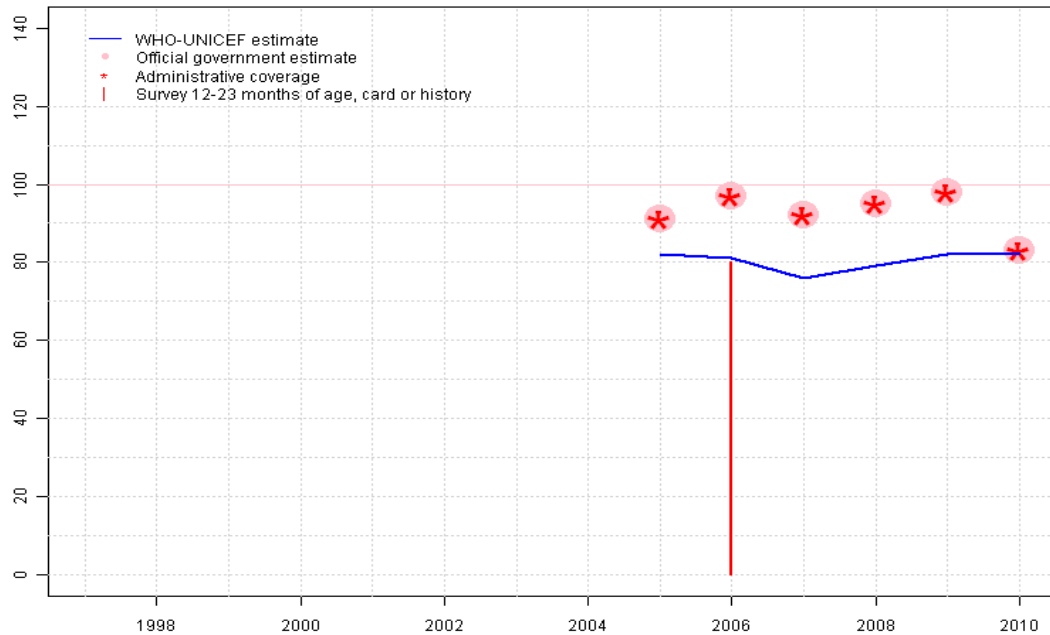
2008: Reported data 89 percent calibrated to 2006 levels. Current estimate of 84 percent changed from previous revision value of 85 percent.

2009: Reported data 92 percent calibrated to 2006 levels. Current estimate of 87 percent changed from previous revision value of 85 percent.

2010: Reported data 96 percent calibrated to 2006 levels.

Zambia - HepB3

ZMB - HepB3



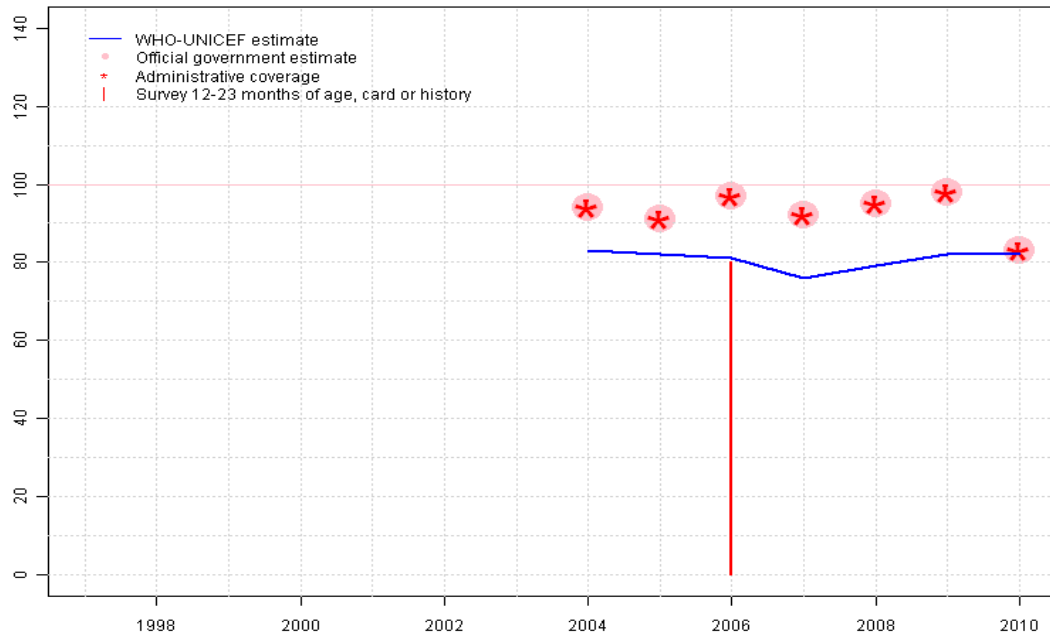
Description:

- 2005: Estimate based on DTP3 estimate. HepB introduced in 2005 Vaccine presentation is DTP-HepB-Hib. Unexplained temporal change in numerator and denominator levels.
- 2006: Estimate based on survey results. 81 percent survey results does not support reported data of 97 percent. Survey 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. Current estimate of 81 percent changed from previous revision value of 80 percent.
- 2007: Reported data 92 percent calibrated to 2006 levels. Current estimate of 76 percent changed from previous revision value of 80 percent.
- 2008: Reported data 95 percent calibrated to 2006 levels. Current estimate of 79 percent changed from previous revision value of 80 percent.
- 2009: Reported data 98 percent calibrated to 2006 levels. Current estimate of 82 percent changed from previous revision value of 80 percent.
- 2010: Estimate based on extrapolation from 2009 value of 82 percent. Reported data not accepted due to a decline from 98 level to 83 percent.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	82	81	76	79	82	82
Official	NA	NA	NA	NA	NA	NA	NA	NA	91	97	92	95	98	83
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	91	97	92	95	98	83
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	NA	NA	NA

Zambia - Hib3

ZMB - Hib3

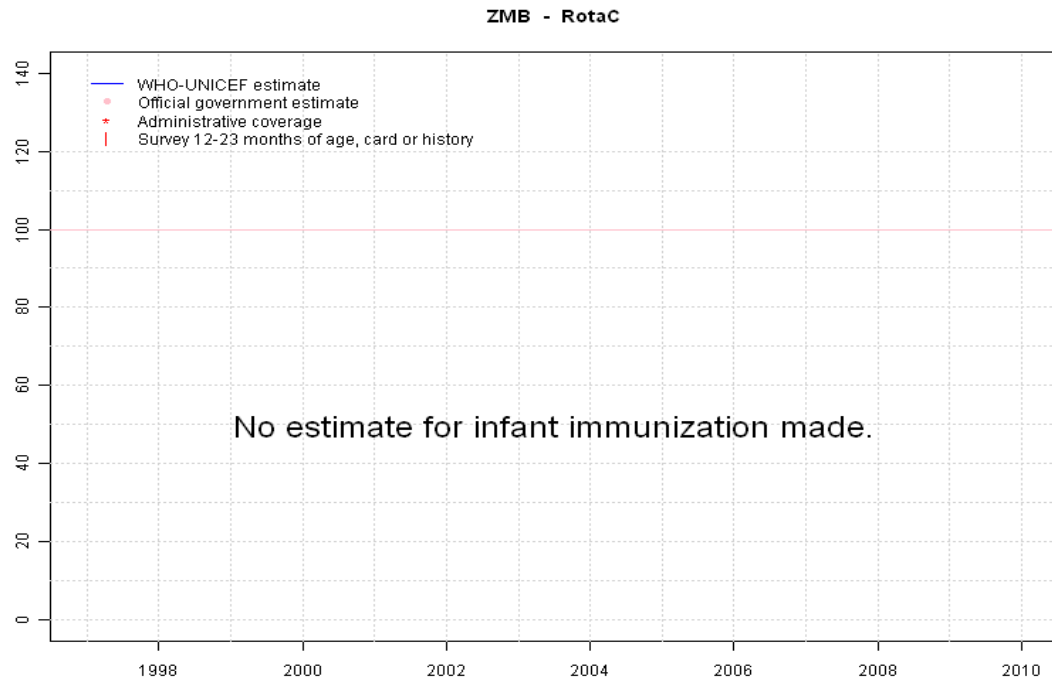


Description:

- 2004: Estimate based on DTP3 estimate. Hib introduced in 2004 Vaccine presentation is DTP-HepB-Hib. Unexplained temporal change in numerator and denominator levels.
- 2005: Estimate based on interpolation between 2004 and 2006. Unexplained temporal change in numerator and denominator levels.
- 2006: Estimate based on survey results. 81 percent survey results does not support reported data of 97 percent. Survey 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.
- 2007: Reported data 92 percent calibrated to 2006 levels. Current estimate of 76 percent changed from previous revision value of 81 percent.
- 2008: Reported data 95 percent calibrated to 2006 levels. Current estimate of 79 percent changed from previous revision value of 81 percent.
- 2009: Reported data 98 percent calibrated to 2006 levels. Current estimate of 82 percent changed from previous revision value of 81 percent.
- 2010: Estimate based on extrapolation from 2009 value of 82 percent. Reported data not accepted due to a decline from 98 level to 83 percent.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estimate	NA	NA	NA	NA	NA	NA	NA	83	82	81	76	79	82	82
Official	NA	NA	NA	NA	NA	NA	NA	94	91	97	92	95	98	83
Administrative	NA	NA	NA	NA	NA	NA	NA	94	91	97	92	95	98	83
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	NA	NA	NA

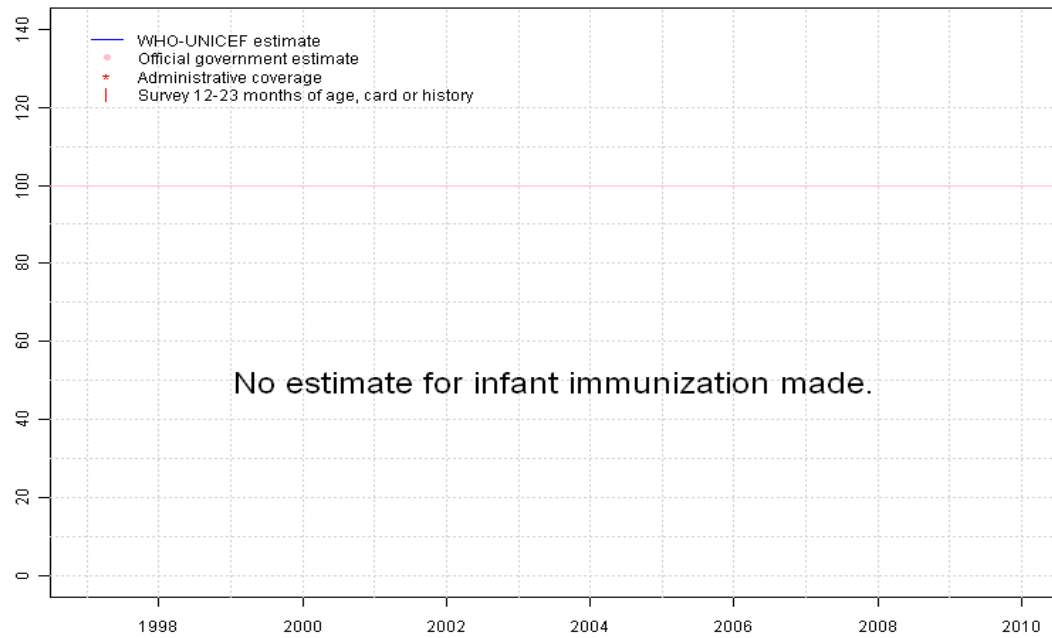
Zambia - RotaC



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estimate	NA	NA	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	NA	NA
Administrative	NA	NA	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	NA	NA

Zambia - PcV3

ZMB - PcV3



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estimate	NA	NA	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	NA	NA
Administrative	NA	NA	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	NA	NA

Zambia - survey details

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
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	Card or History	80	12-23 m	1272	78
DTP3	Card	67	12-23 m	1272	78
DTP3	History	13	12-23 m	1272	78
DTP3	C or H <12 months	77	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	Card or History	80	12-23 m	1272	78
HepB3	Card	67	12-23 m	1272	78
HepB3	History	13	12-23 m	1272	78
HepB3	C or H <12 months	77	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
MCV	C or H <12 months	69	12-23 m	1272	78
MCV	Card	70	12-23 m	1272	78
MCV	Card or History	85	12-23 m	1272	78
MCV	History	15	12-23 m	1272	78
Pol1	Card or History	94	12-23 m	1272	78
Pol1	History	16	12-23 m	1272	78
Pol1	Card	77	12-23 m	1272	78
Pol1	C or H <12 months	92	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

2001 Zambia Demographic and Health Survey 2001-2002

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

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

Zambia - survey details

MCV	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	66
BCG	History	13	12-23 m	328	66

DTP1	Card	61	12-23 m	328	66
DTP1	History	21	12-23 m	328	66
DTP3	History	8	12-23 m	328	66
DTP3	Card	56	12-23 m	328	66
MCV	History	17	12-23 m	328	66
MCV	Card	57	12-23 m	328	66
Pol1	History	22	12-23 m	328	66
Pol1	Card	64	12-23 m	328	66
Pol3	History	17	12-23 m	328	66
Pol3	Card	59	12-23 m	328	66

Further information and estimates for 1980-1996 are available at:

http://www.childinfo.org/immunization_countryreports.html

http://www.who.int/immunization_monitoring/routine/immunization_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 receive 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.

Year	PAB coverage estimate (%)
1997	66
1998	70
1999	74
2000	78
2001	85
2002	87
2003	89
2004	90
2005	91
2006	90
2007	89
2008	90
2009	90
2010	90

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.