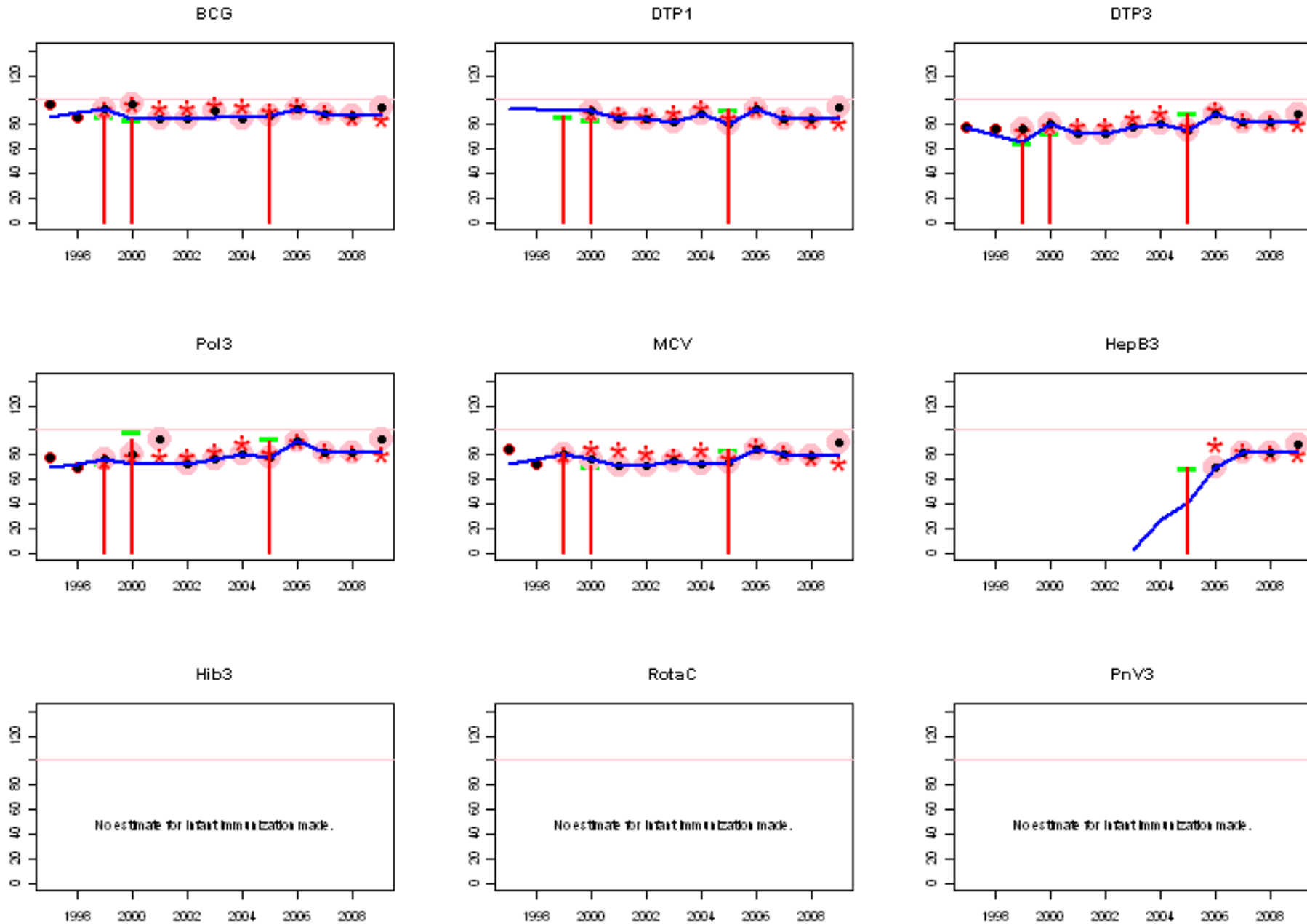
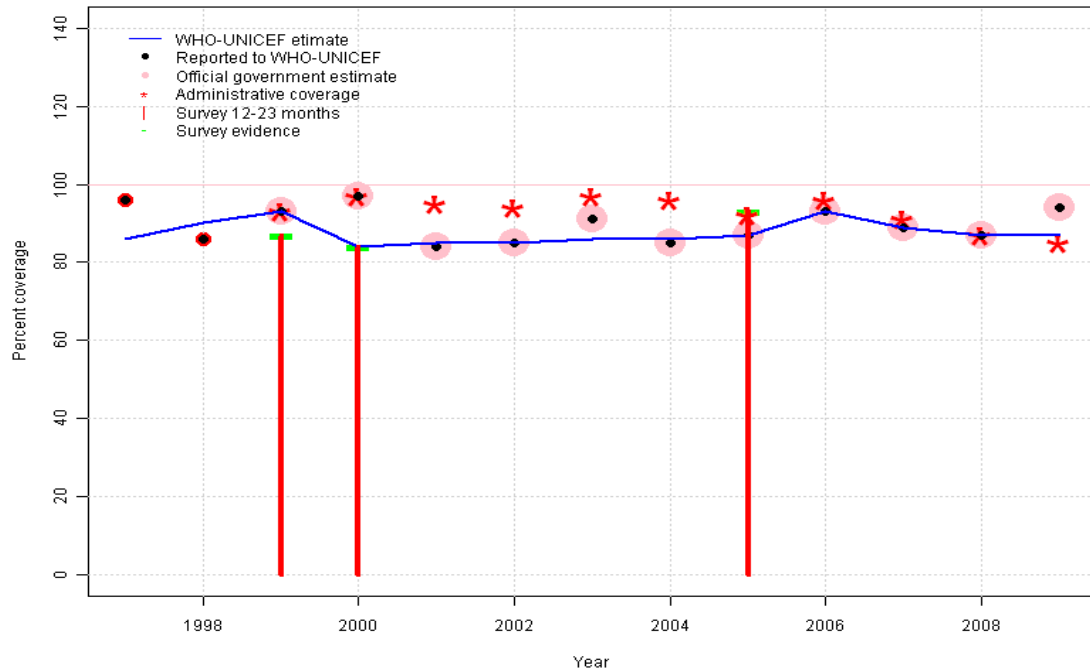


Nepal: WHO and UNICEF estimates of immunization coverage, 1997 - 2009



Nepal - BCG

NPL - BCG



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	86	90	93	84	85	85	86	86	87	93	89	87	87
Reported	96	86	93	97	84	85	91	85	87	93	89	87	94
Official	NA	NA	93	97	84	85	91	85	87	93	89	87	94
Administrative	NA	NA	93	97	95	94	97	96	92	96	91	87	85
Survey	NA	NA	87	84	NA	NA	NA	NA	93	NA	NA	NA	NA

Description:

1997: Legacy estimate.

1998: Estimate interpolated between 1997 and 1999 estimates.

1999: Estimate based on reported data (93 percent) confirmed by survey (87 percent).

2000: Estimate based on survey results. Reported data (97 percent) not consistent with survey results (84 percent).

2001: Estimate interpolated between 2000 and 2005 estimates.

2002: Estimate interpolated between 2000 and 2005 estimates.

2003: Estimate interpolated between 2000 and 2005 estimates.

2004: Estimate interpolated between 2000 and 2005 estimates.

2005: Estimate based on reported data.

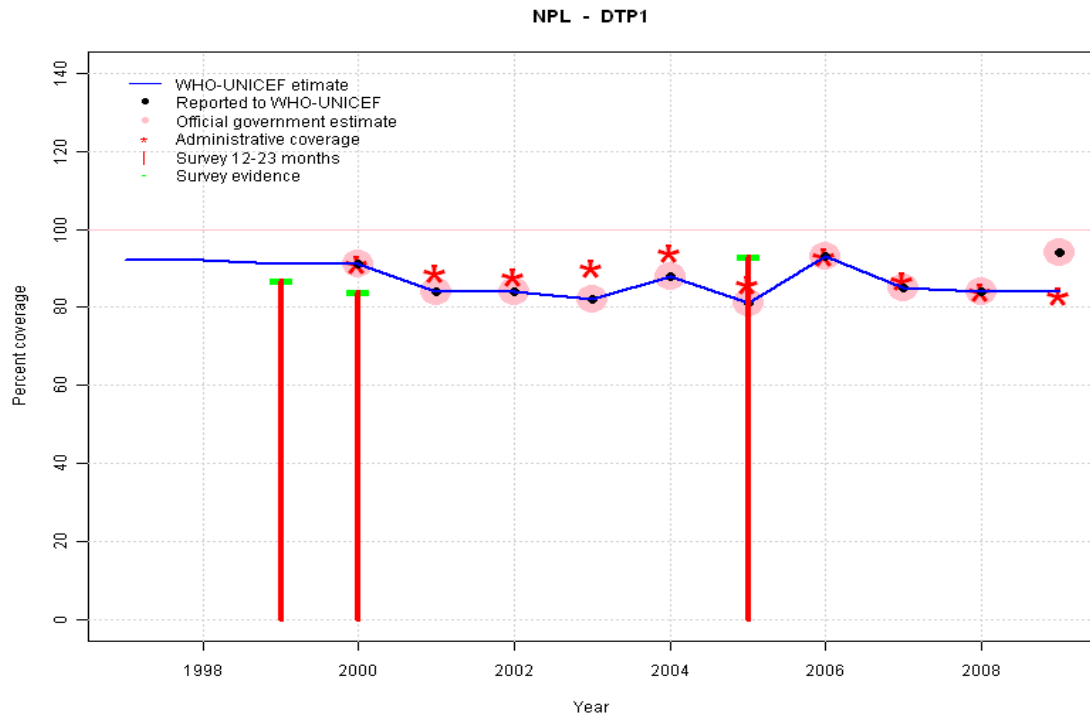
2006: Estimate based on reported data.

2007: Estimate based on reported data.

2008: Estimate based on reported data.

2009: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2008 reported value of 87 percent. 2009 reported data (94 percent) ignored by working group. Nationally reported data based on the results of a recent survey. Estimate is set at the level of the preceding year, pending review of survey results.

Nepal - DTP1

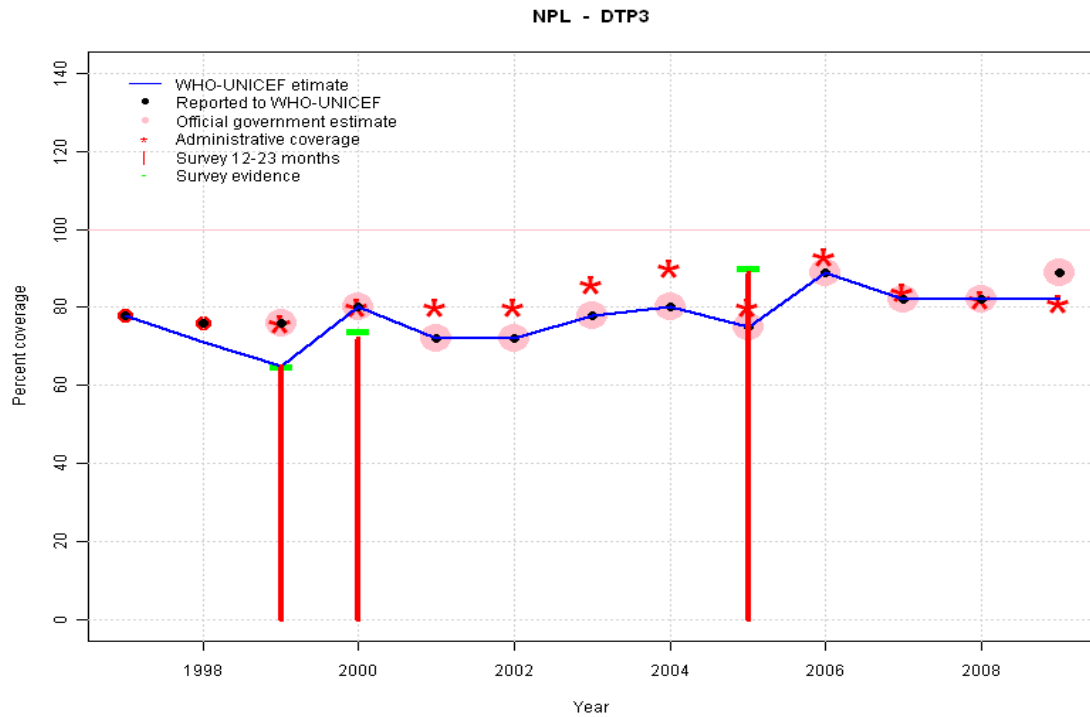


Description:

- 1997: Legacy estimate.
- 1998: Estimate interpolated between 1997 and 1999 estimates.
- 1999: Estimate based on interpolated value between reported data. Survey (87 percent) confirms trend in reported data.
- 2000: Estimate based on reported data (91 percent) confirmed by survey (84 percent).
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data.
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data.
- 2005: Estimate based on reported data.
- 2006: Estimate based on reported data.
- 2007: Estimate based on reported data.
- 2008: Estimate based on reported data.
- 2009: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2008 reported value of 84 percent. 2009 reported data (94 percent) ignored by working group. Nationally reported data based on the results of a recent survey. Estimate is set at the level of the preceding year, pending review of survey results.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	92	92	91	91	84	84	82	88	81	93	85	84	84
Reported	NA	NA	NA	91	84	84	82	88	81	93	85	84	94
Official	NA	NA	NA	91	84	84	82	88	81	93	85	84	94
Administrative	NA	NA	NA	91	89	88	90	94	86	93	87	84	83
Survey	NA	NA	87	84	NA	NA	NA	NA	93	NA	NA	NA	NA

Nepal - DTP3



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	78	71	65	80	72	72	78	80	75	89	82	82	82
Reported	78	76	76	80	72	72	78	80	75	89	82	82	89
Official	NA	NA	76	80	72	72	78	80	75	89	82	82	89
Administrative	NA	NA	76	80	80	80	86	90	80	93	84	82	81
Survey	NA	NA	65	74	NA	NA	NA	NA	90	NA	NA	NA	NA

Description:

1997: Legacy estimate.

1998: Reported data (76 percent) calibrated to 1997 and 1999 levels.

1999: Estimate based on survey results. Reported data (76 percent) not consistent with survey results (65 percent).

2000: Estimate based on reported data (80 percent) confirmed by survey (74 percent). Survey results (72 percent) adjusted for recall bias to 74 percent based on first dose card or history coverage (84 percent) and documented drop-out between first (16 percent) and third (14 percent) doses.

2001: Estimate based on reported data.

2002: Estimate based on reported data.

2003: Estimate based on reported data.

2004: Estimate based on reported data.

2005: Estimate based on reported data. Survey results (89 percent) adjusted for recall bias to 90 percent based on first dose card or history coverage (93 percent) and documented drop-out between first (32 percent) and third (31 percent) doses.

2006: Estimate based on reported data.

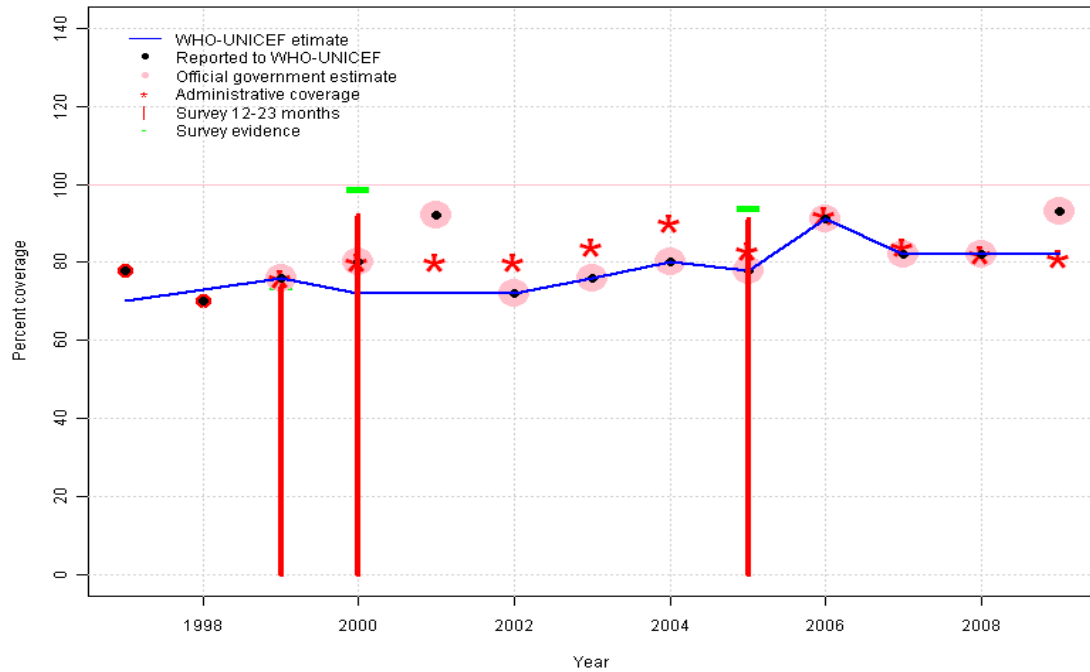
2007: Estimate based on reported data.

2008: Estimate based on reported data.

2009: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2008 reported value of 82 percent. 2009 reported data (89 percent) ignored by working group. Nationally reported data based on the results of a recent survey. Estimate is set at the level of the preceding year, pending review of survey results.

Nepal - Pol3

NPL - Pol3



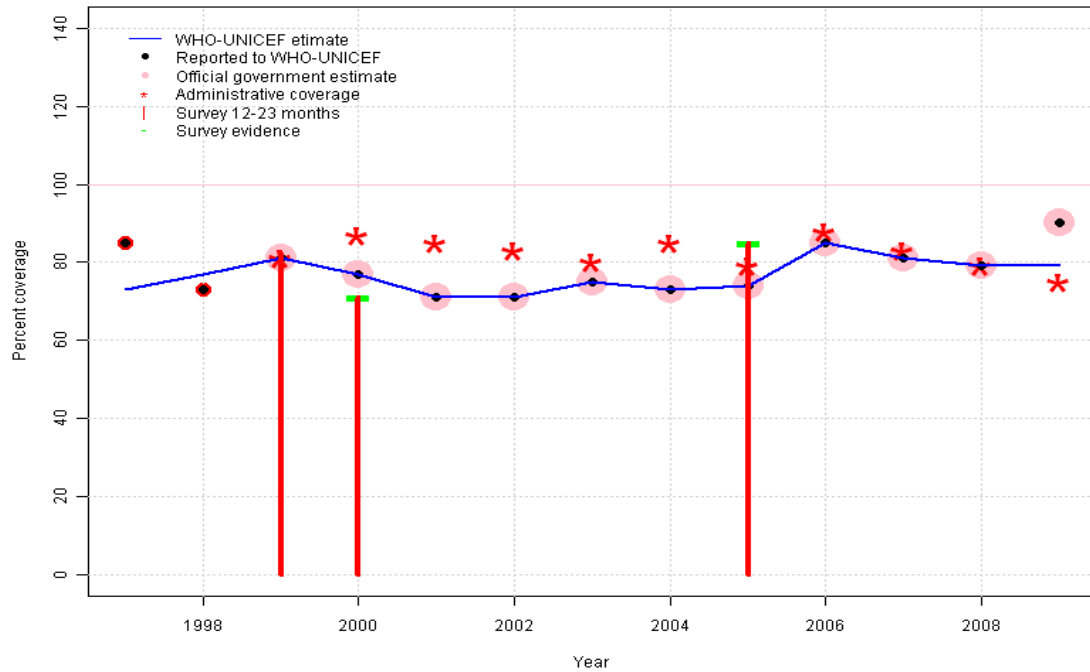
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	70	73	76	72	72	72	76	80	78	91	82	82	82
Reported	78	70	76	80	92	72	76	80	78	91	82	82	93
Official	NA	NA	76	80	92	72	76	80	78	91	82	82	93
Administrative	NA	NA	76	80	80	80	84	90	83	92	84	82	81
Survey	NA	NA	74	99	NA	NA	NA	NA	94	NA	NA	NA	NA

Description:

- 1997: Legacy estimate.
- 1998: Estimate interpolated between 1997 and 1999 estimates.
- 1999: Estimate based on reported data (76 percent) confirmed by survey (74 percent).
- 2000: Survey results significantly higher than DTP3 results and likely contain immunizations administered during campaigns. Estimates set to DTP3 level. Survey results (92 percent) adjusted for recall bias to 99 percent based on first dose card or history coverage (99 percent) and documented drop-out between first (16 percent) and third (16 percent) doses.
- 2001: Estimate interpolated between 2000 and 2002 estimates. 2001 reported data (92 percent) inconsistent with data from other years. 2001 reported data (92 percent) ignored by working group.
- 2002: Estimate based on reported data.
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data.
- 2005: Estimate based on reported data. Survey results (91 percent) adjusted for recall bias to 94 percent based on first dose card or history coverage (97 percent) and documented drop-out between first (32 percent) and third (31 percent) doses.
- 2006: Estimate based on reported data.
- 2007: Estimate based on reported data.
- 2008: Estimate based on reported data.
- 2009: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2008 reported value of 82 percent. 2009 reported data (93 percent) inconsistent with data from other years. 2009 reported data (93 percent) ignored by working group. Nationally reported data based on the results of a recent survey. Estimate is set at the level of the preceding year, pending review of survey results.

Nepal - MCV

NPL - MCV

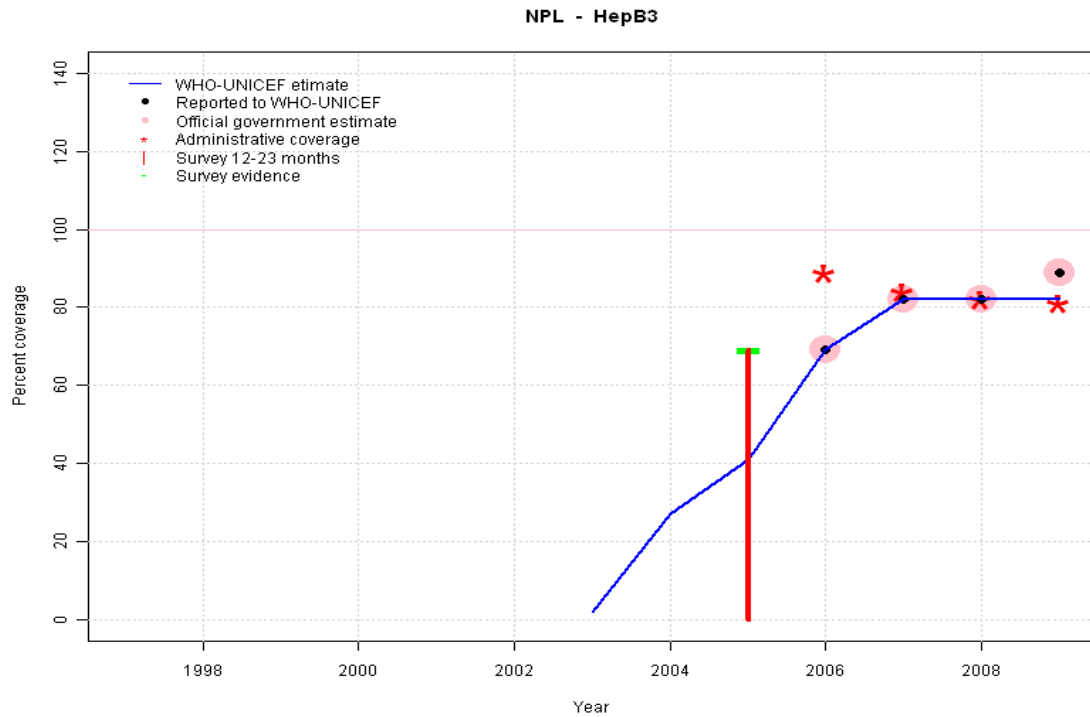


Description:

- 1997: Legacy estimate.
- 1998: Estimate interpolated between 1997 and 1999 estimates.
- 1999: Estimate based on reported data (81 percent) confirmed by survey (82 percent).
- 2000: Estimate based on reported data (77 percent) confirmed by survey (71 percent).
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data.
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data.
- 2005: Estimate based on reported data.
- 2006: Estimate based on reported data.
- 2007: Estimate based on reported data.
- 2008: Estimate based on reported data.
- 2009: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2008 reported value of 79 percent. 2009 reported data (90 percent) inconsistent with data from other years. 2009 reported data (90 percent) ignored by working group. Nationally reported data based on the results of a recent survey. Estimate is set at the level of the preceding year, pending review of survey results.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	73	77	81	77	71	71	75	73	74	85	81	79	79
Reported	85	73	81	77	71	71	75	73	74	85	81	79	90
Official	NA	NA	81	77	71	71	75	73	74	85	81	79	90
Administrative	NA	NA	81	87	85	83	80	85	79	88	83	79	75
Survey	NA	NA	82	71	NA	NA	NA	NA	85	NA	NA	NA	NA

Nepal - HepB3

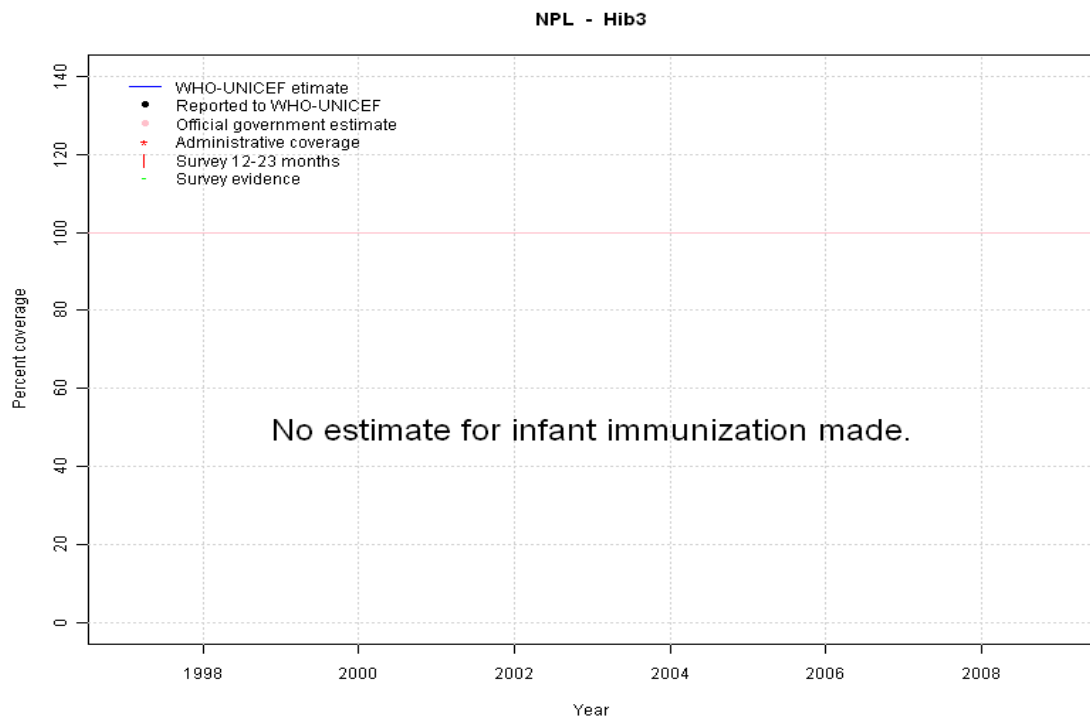


Description:

- 2003: Estimate assigned by working group. In 2003, hepatitis B vaccine introduced in part of the country and 15 percent coverage was achieved in 17 percent of the country. HepB partially introduced in 2002 nationally in 2005 reporting started in 2003. Vaccine presentation is DTP-HepB.
- 2004: Estimate assigned by working group. Eighty-seven percent coverage achieved in 31 percent of the country.
- 2005: Estimate assigned by working group. Fifty-two percent coverage achieved in 41 percent of the country.
- 2006: Estimate based on reported data.
- 2007: Estimate based on reported data.
- 2008: Estimate based on reported data.
- 2009: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2008 reported value of 82 percent. 2009 reported data (89 percent) ignored by working group. Nationally reported data based on the results of a recent survey. Estimate is set at the level of the preceding year, pending review of survey results.

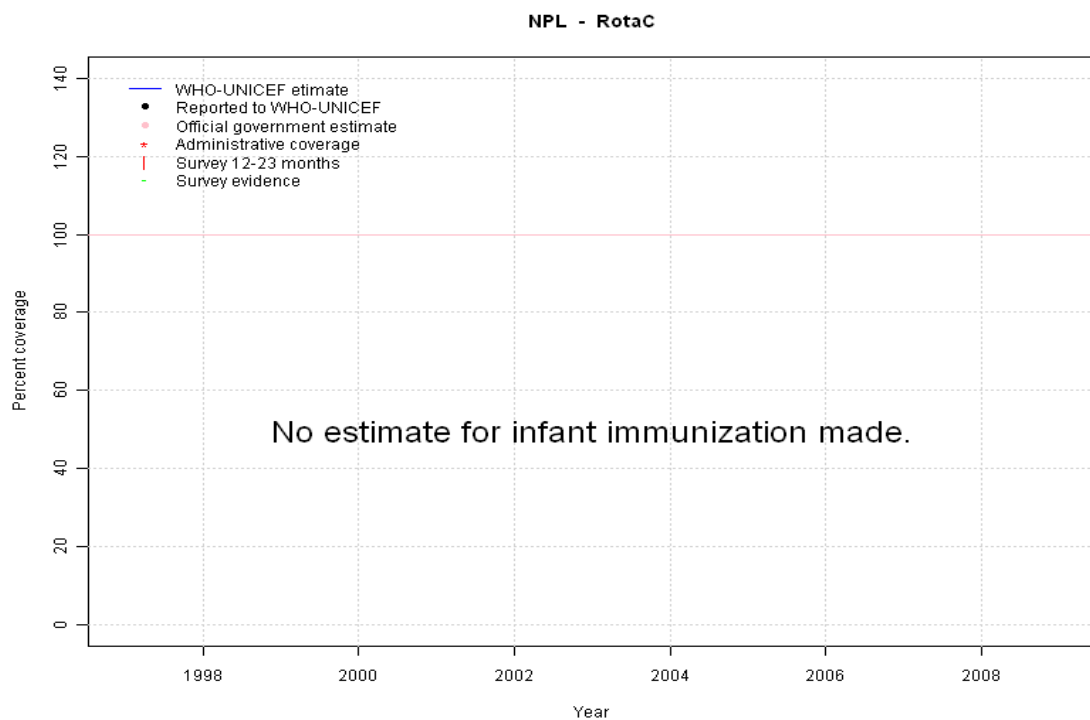
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	NA	NA	NA	2	27	41	69	82	82	82
Reported	NA	NA	NA	NA	NA	NA	NA	NA	NA	69	82	82	89
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	69	82	82	89
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	89	84	82	81
Survey	NA	NA	NA	NA	NA	NA	NA	NA	69	NA	NA	NA	NA

Nepal - Hib3



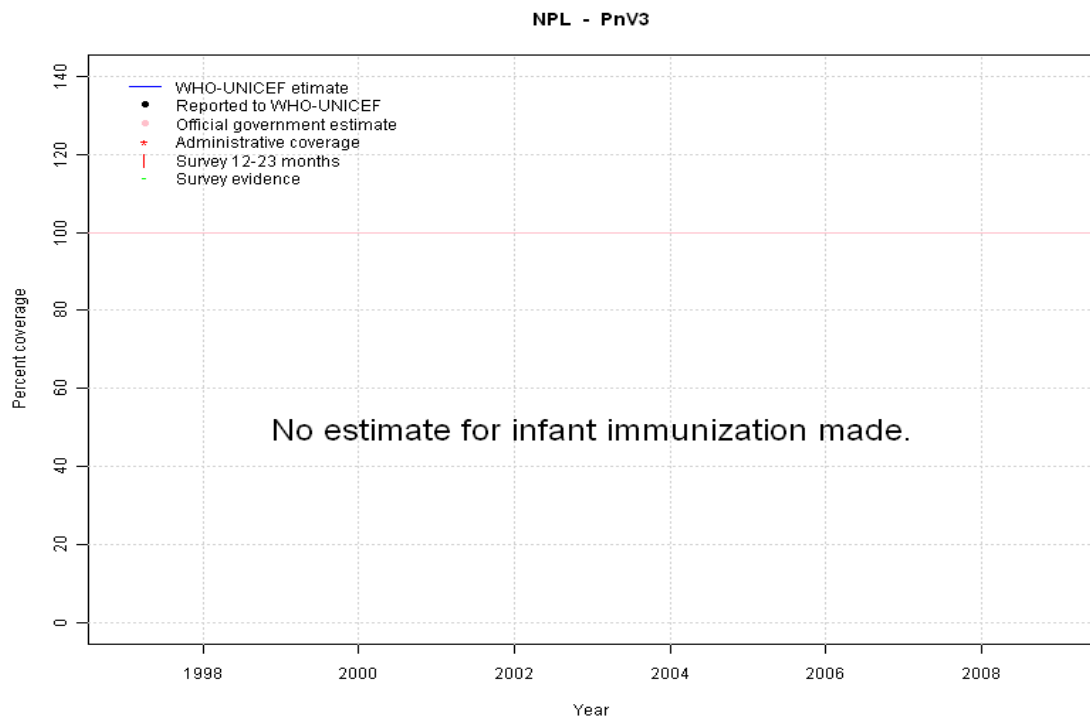
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reported	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA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

Nepal - RotaC



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

Nepal - PnV3



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

Nepal - survey details

2005 Nepal Demographic and Health Survey 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	93	12-23 m	984	32
BCG	Card	32	12-23 m	984	32
BCG	Card or History	93	12-23 m	984	32
BCG	History	62	12-23 m	984	32
DTP1	Card or History	93	12-23 m	984	32
DTP1	Card	32	12-23 m	984	32
DTP1	History	61	12-23 m	984	32
DTP1	C or H <12 months	92	12-23 m	984	32
DTP3	C or H <12 months	88	12-23 m	984	32
DTP3	Card	31	12-23 m	984	32
DTP3	Card or History	89	12-23 m	984	32
DTP3	History	57	12-23 m	984	32
HepB1	Card or History	76	12-23 m	984	32
HepB1	Card	30	12-23 m	984	32
HepB1	History	47	12-23 m	984	32
HepB1	C or H <12 months	76	12-23 m	984	32
HepB3	C or H <12 months	68	12-23 m	984	32
HepB3	Card	27	12-23 m	984	32
HepB3	Card or History	69	12-23 m	984	32
HepB3	History	42	12-23 m	984	32
MCV	C or H <12 months	80	12-23 m	984	32
MCV	Card	28	12-23 m	984	32
MCV	Card or History	85	12-23 m	984	32
MCV	History	56	12-23 m	984	32
Pol1	C or H <12 months	97	12-23 m	984	32
Pol1	Card	32	12-23 m	984	32
Pol1	Card or History	97	12-23 m	984	32
Pol1	History	65	12-23 m	984	32
Pol3	C or H <12 months	90	12-23 m	984	32
Pol3	History	60	12-23 m	984	32
Pol3	Card	31	12-23 m	984	32
Pol3	Card or History	91	12-23 m	984	32

2000 Nepal Demographic and Health Survey 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	History	68	12-23 m	1313	16
BCG	C or H <12 months	83	12-23 m	1313	16
BCG	Card	16	12-23 m	1313	16
BCG	Card or History	84	12-23 m	1313	16
DTP1	C or H <12 months	82	12-23 m	1313	16
DTP1	Card	16	12-23 m	1313	16
DTP1	Card or History	84	12-23 m	1313	16
DTP1	History	68	12-23 m	1313	16
DTP3	C or H <12 months	71	12-23 m	1313	16
DTP3	Card	14	12-23 m	1313	16
DTP3	Card or History	72	12-23 m	1313	16
DTP3	History	58	12-23 m	1313	16
MCV	History	58	12-23 m	1313	16
MCV	C or H <12 months	64	12-23 m	1313	16
MCV	Card or History	71	12-23 m	1313	16
MCV	Card	13	12-23 m	1313	16
Pol1	C or H <12 months	97	12-23 m	1313	16
Pol1	Card	16	12-23 m	1313	16
Pol1	Card or History	99	12-23 m	1313	16
Pol1	History	83	12-23 m	1313	16
Pol3	Card or History	92	12-23 m	1313	16
Pol3	Card	16	12-23 m	1313	16
Pol3	History	76	12-23 m	1313	16
Pol3	C or H <12 months	90	12-23 m	1313	16

1999 Report on the Situation of Women, Children and Households 2000, 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	87	12-23 m	1068	79
DTP1	Card or History	87	12-23 m	1068	79
DTP3	Card or History	65	12-23 m	1068	79
MCV	Card or History	82	12-23 m	1068	79
Pol1	Card or History	93	12-23 m	1068	79
Pol3	Card or History	74	12-23 m	1068	79

1997 Nepal, Routine Immunization and NID Coverage Survey

Nepal - survey details

Report 1998

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	86	12-23 m	0	17
DTP1	C or H <12 months	87	12-23 m	0	17

DTP3	C or H <12 months	76	12-23 m	0	17
MCV	C or H <12 months	73	12-23 m	0	17
Pol1	C or H <12 months	86	12-23 m	0	17
Pol3	C or H <12 months	70	12-23 m	0	17

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

Nepal

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	59
1998	61
1999	62
2000	67
2001	76
2002	85
2003	90
2004	90
2005	88
2006	86
2007	84
2008	81
2009	81

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.