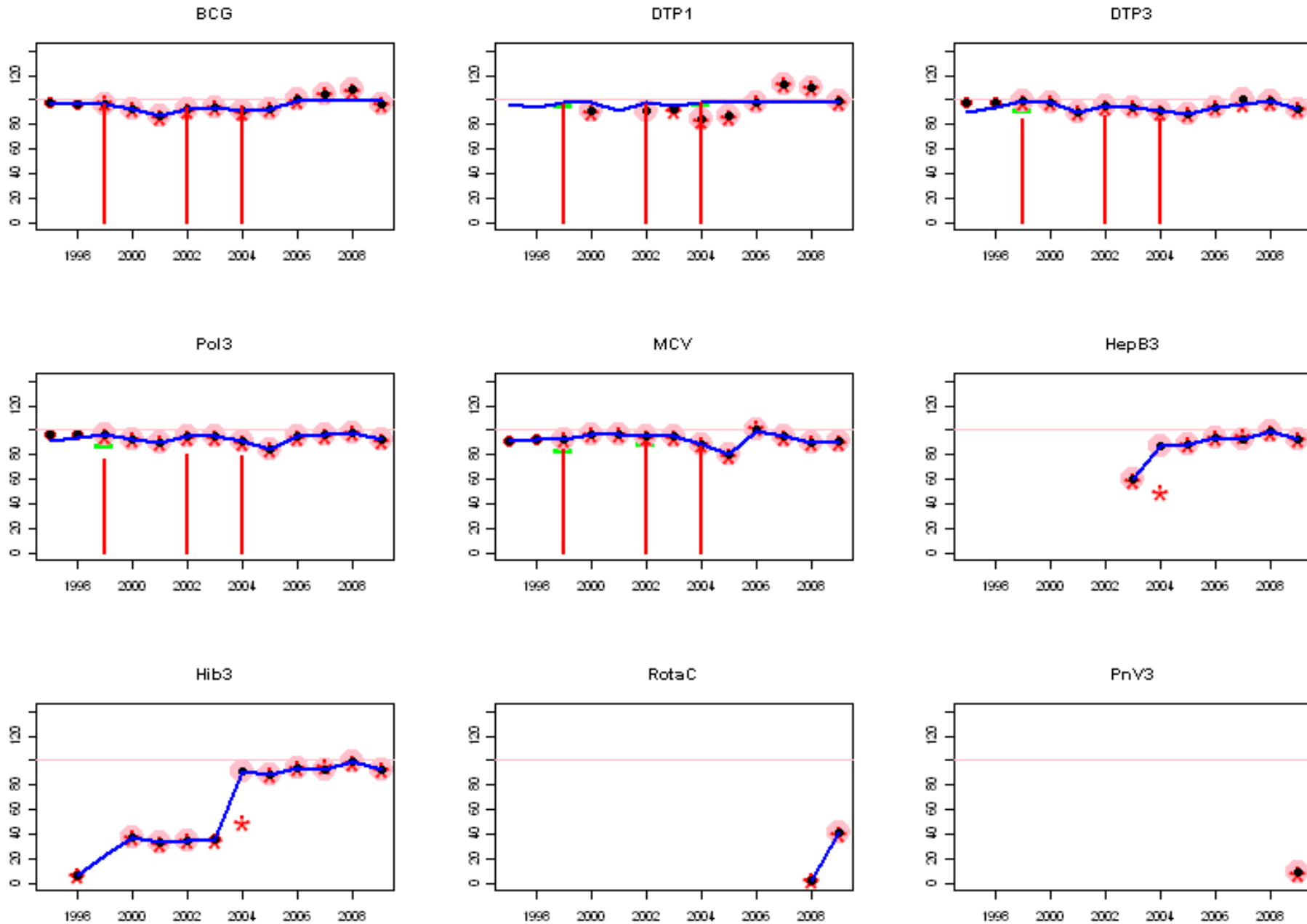
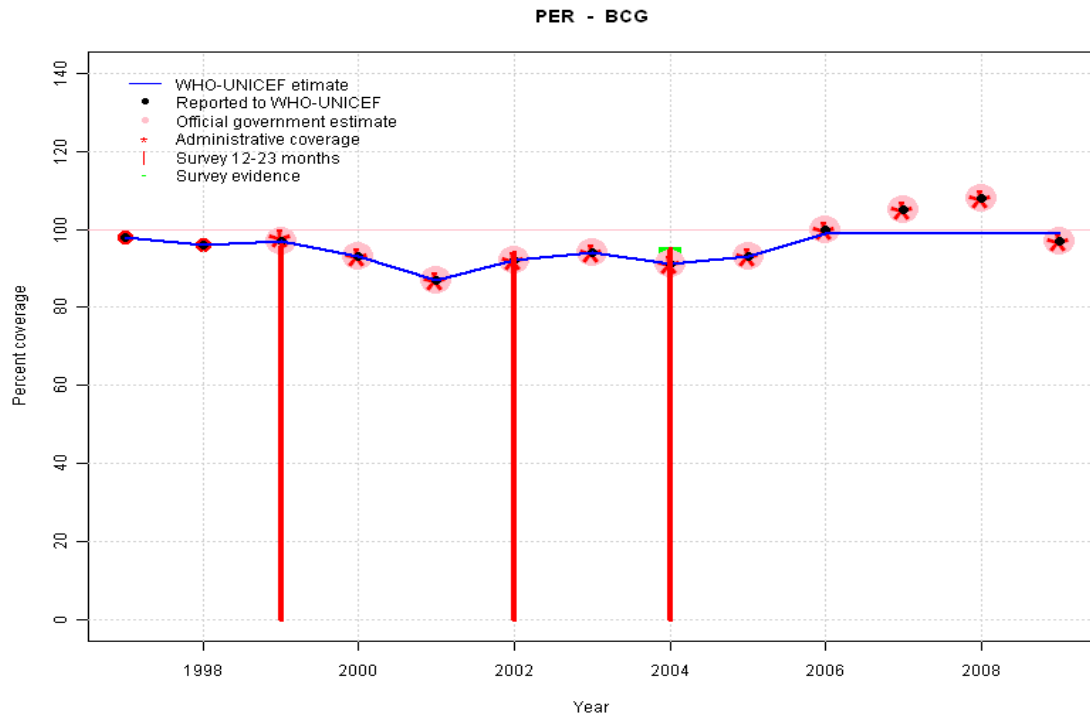


Peru: WHO and UNICEF estimates of immunization coverage, 1997 - 2009



Peru - BCG

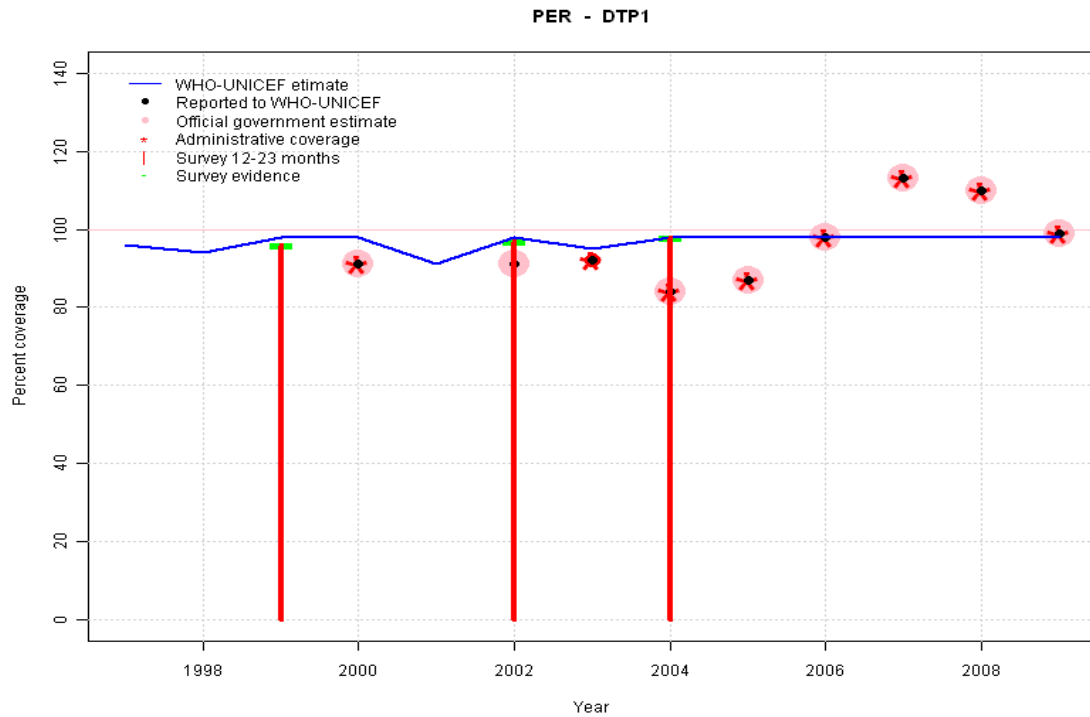


Description:

- 1997: Legacy estimate.
- 1998: Estimate based on reported data.
- 1999: Estimate based on reported data (97 percent) confirmed by survey (96 percent).
- 2000: Estimate based on reported data.
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data (92 percent) confirmed by survey (94 percent).
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data (91 percent) confirmed by survey (95 percent).
- 2005: Estimate based on reported data.
- 2006: Estimate based on reported data.
- 2007: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2006 reported value of 99 percent. 2007 reported data (105 percent) ignored; greater than 100 percent.
- 2008: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2006 reported value of 99 percent. 2008 reported data (108 percent) ignored; greater than 100 percent.
- 2009: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2006 reported value of 99 percent. 2009 reported data (97 percent) inconsistent with data from other years.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	98	96	97	93	87	92	94	91	93	99	99	99	99
Reported	98	96	97	93	87	92	94	91	93	100	105	108	97
Official	NA	NA	97	93	87	92	94	91	93	100	105	108	97
Administrative	NA	NA	98	93	87	92	94	91	93	100	105	108	97
Survey	NA	NA	96	NA	NA	94	NA	95	NA	NA	NA	NA	NA

Peru - DTP1

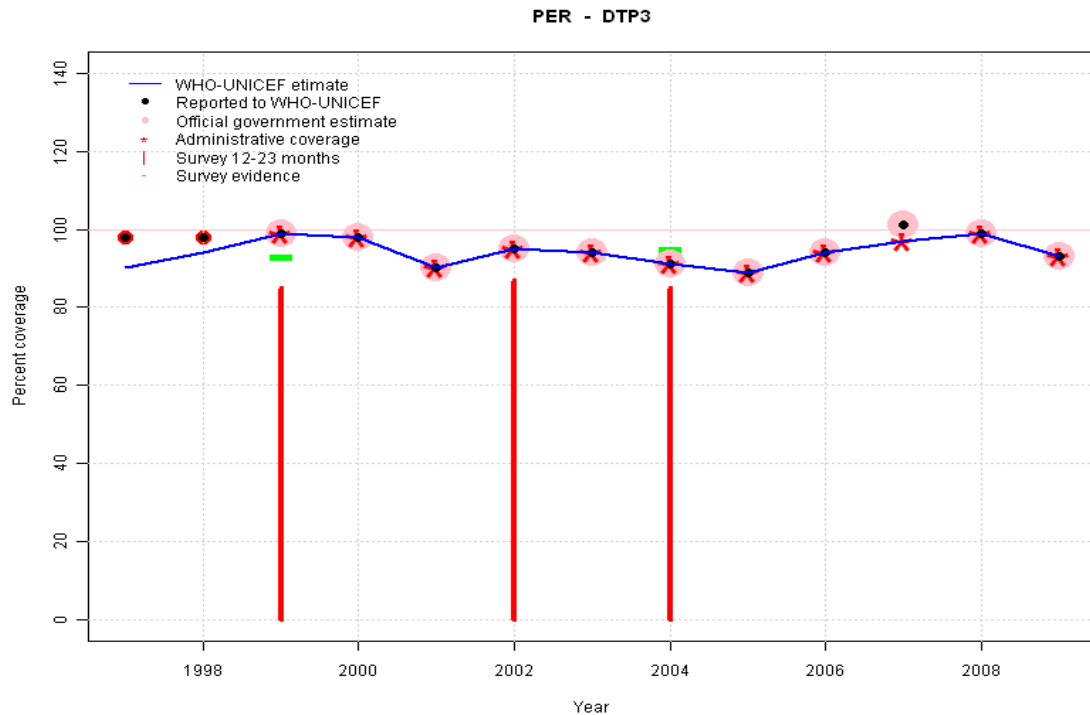


Description:

- 1997: Legacy estimate.
- 1998: Estimate interpolated between 1997 and 1999 estimates.
- 1999: Estimated DTP3 greater than estimated DTP1; DTP1 estimate based on the relationship between DTP1 and DTP3 from 282 surveys.
- 2000: Estimated DTP3 greater than estimated DTP1; DTP1 estimate based on the relationship between DTP1 and DTP3 from 282 surveys.
- 2001: Estimate based on trend in reported data. Missing or ignored reported value estimated by interpolation between reported values of 91 percent in 2000 and 91 percent in 2002.
- 2002: Estimated DTP3 greater than estimated DTP1; DTP1 estimate based on the relationship between DTP1 and DTP3 from 282 surveys.
- 2003: Estimate interpolated between 2002 and 2004 estimates.
- 2004: Estimate based on survey results. Reported data (84 percent) not consistent with survey results (98 percent).
- 2005: Estimate extrapolated from 2004 level (98 percent).
- 2006: Estimate extrapolated from 2004 level (98 percent).
- 2007: Estimate extrapolated from 2004 level (98 percent). 2007 reported data (113 percent) ignored; greater than 100 percent.
- 2008: Estimated DTP3 greater than estimated DTP1; DTP1 estimate based on the relationship between DTP1 and DTP3 from 282 surveys.
- 2009: Estimate extrapolated from 2004 level (98 percent). 2009 reported data (99 percent) inconsistent with data from other years.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	96	94	98	98	91	98	95	98	98	98	98	98	98
Reported	NA	NA	NA	91	NA	91	92	84	87	98	113	110	99
Official	NA	NA	NA	91	NA	91	NA	84	87	98	113	110	99
Administrative	NA	NA	NA	91	NA	NA	92	84	87	98	113	110	99
Survey	NA	NA	96	NA	NA	97	NA	98	NA	NA	NA	NA	NA

Peru - DTP3

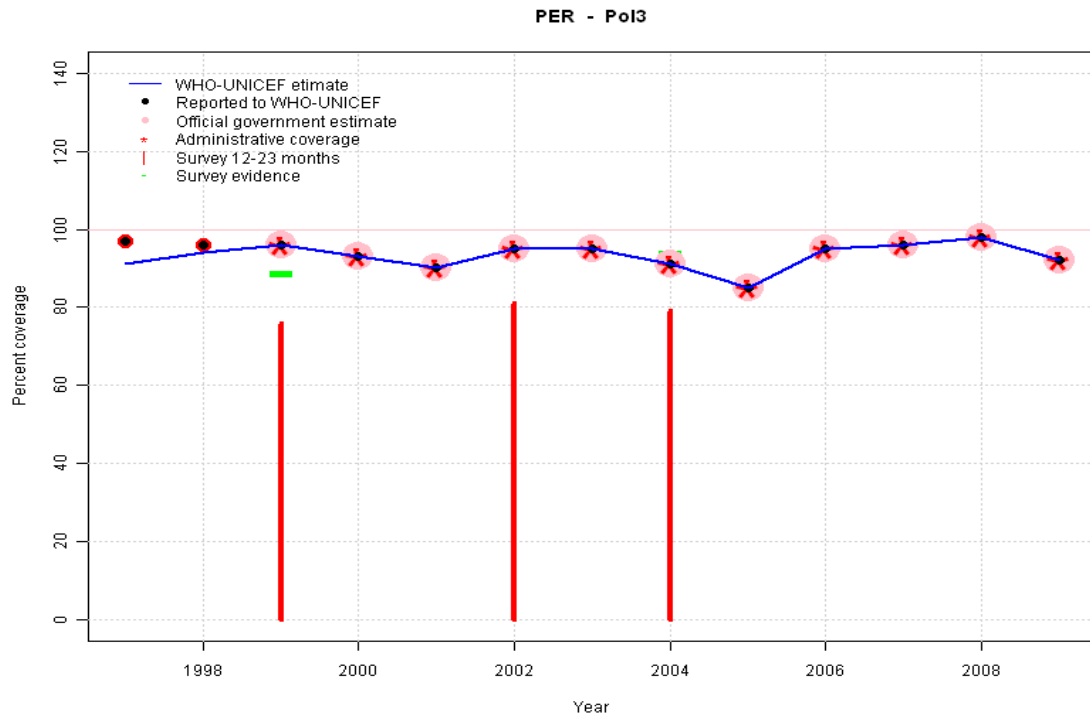


	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	90	94	99	98	90	95	94	91	89	94	97	99	93
Reported	98	98	99	98	90	95	94	91	89	94	101	99	93
Official	NA	NA	99	98	90	95	94	91	89	94	101	99	93
Administrative	NA	NA	99	98	90	95	94	91	89	94	97	99	93
Survey	NA	NA	93	NA	NA	94	NA	95	NA	NA	NA	NA	NA

Description:

- 1997: Legacy estimate.
- 1998: Reported data (98 percent) calibrated to 1997 and 1999 levels.
- 1999: Estimate based on reported data (99 percent) confirmed by survey (93 percent). Survey results (85 percent) adjusted for recall bias to 93 percent based on first dose card or history coverage (96 percent) and documented drop-out between first (58 percent) and third (56 percent) doses.
- 2000: Estimate based on reported data.
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data (95 percent) confirmed by survey (94 percent). Survey results (87 percent) adjusted for recall bias to 94 percent based on first dose card or history coverage (97 percent) and documented drop-out between first (66 percent) and third (64 percent) doses.
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data (91 percent) confirmed by survey (95 percent). Survey results (85 percent) adjusted for recall bias to 95 percent based on first dose card or history coverage (98 percent) and documented drop-out between first (68 percent) and third (66 percent) doses.
- 2005: Estimate based on reported data.
- 2006: Estimate based on reported data.
- 2007: Estimate based on trend in reported data. Missing or ignored reported value estimated by interpolation between reported values of 94 percent in 2006 and 99 percent in 2008. 2007 reported data (101 percent) ignored; greater than 100 percent.
- 2008: Estimate based on reported data.
- 2009: Estimate based on reported data.

Peru - Pol3



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	91	94	96	93	90	95	95	91	85	95	96	98	92
Reported	97	96	96	93	90	95	95	91	85	95	96	98	92
Official	NA	NA	96	93	90	95	95	91	85	95	96	98	92
Administrative	NA	NA	96	93	90	95	95	91	85	95	96	98	92
Survey	NA	NA	89	NA	NA	96	NA	94	NA	NA	NA	NA	NA

Description:

1997: Legacy estimate.

1998: Estimate interpolated between 1997 and 1999 estimates.

1999: Estimate based on reported data (96 percent) confirmed by survey (89 percent). Survey results (76 percent) adjusted for recall bias to 89 percent based on first dose card or history coverage (96 percent) and documented drop-out between first (58 percent) and third (54 percent) doses.

2000: Estimate based on reported data.

2001: Estimate based on reported data.

2002: Estimate based on reported data (95 percent) confirmed by survey (96 percent). Survey results (81 percent) adjusted for recall bias to 96 percent based on first dose card or history coverage (97 percent) and documented drop-out between first (66 percent) and third (65 percent) doses.

2003: Estimate based on reported data.

2004: Estimate based on reported data (91 percent) confirmed by survey (94 percent). Survey results (79 percent) adjusted for recall bias to 94 percent based on first dose card or history coverage (97 percent) and documented drop-out between first (68 percent) and third (66 percent) doses.

2005: Estimate based on reported data.

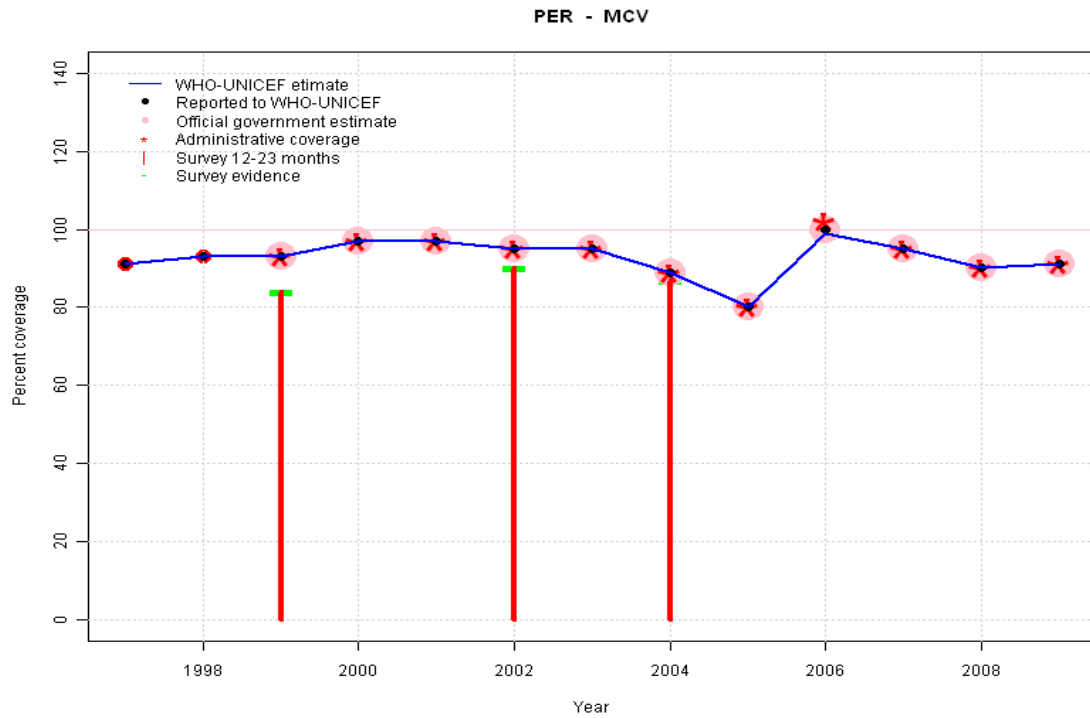
2006: Estimate based on reported data.

2007: Estimate based on reported data.

2008: Estimate based on reported data.

2009: Estimate based on reported data.

Peru - MCV



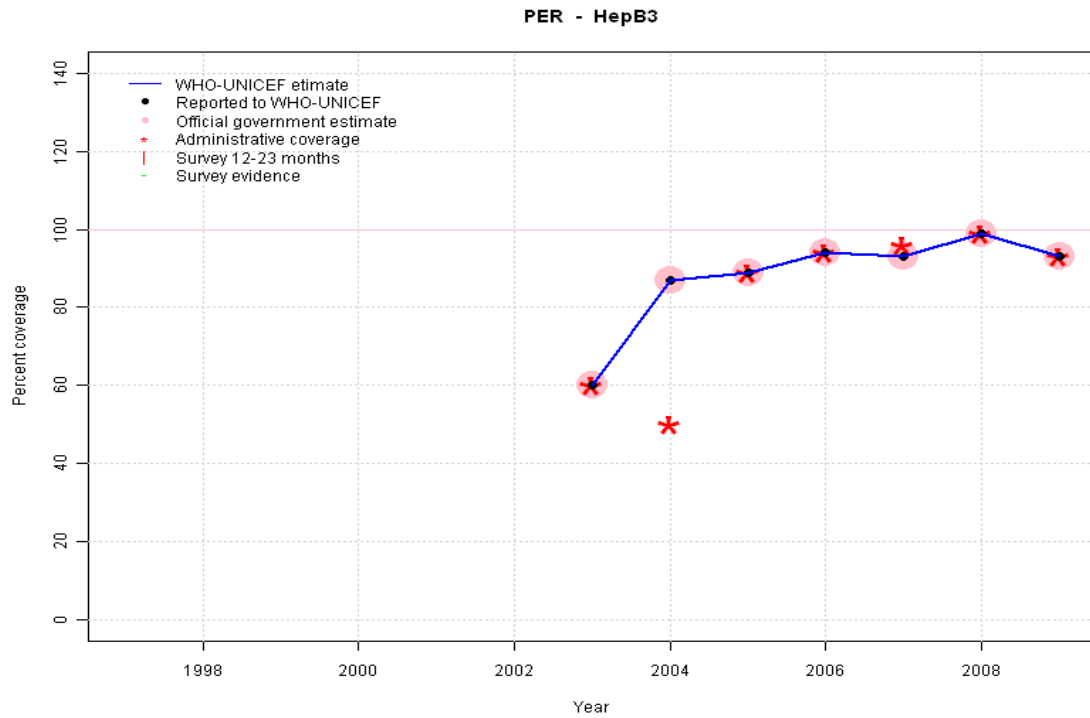
Description:

- 1997: Legacy estimate.
- 1998: Estimate based on reported data.
- 1999: Estimate based on reported data (93 percent) confirmed by survey (84 percent).
- 2000: Estimate based on reported data.
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data (95 percent) confirmed by survey (90 percent).
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data (89 percent) confirmed by survey (87 percent).
- 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 reported data.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	91	93	93	97	97	95	95	89	80	99	95	90	91
Reported	91	93	93	97	97	95	95	89	80	100	95	90	91
Official	NA	NA	93	97	97	95	95	89	80	100	95	90	91
Administrative	NA	NA	93	97	97	95	95	89	80	102	95	90	91
Survey	NA	NA	84	NA	NA	90	NA	87	NA	NA	NA	NA	NA

Peru - HepB3

Description:



2003: Estimate based on reported data. HepB partially introduced in 1998 nationally in 2005 reporting started in 2003.

2004: Estimate based on reported data.

2005: Estimate based on reported data.

2006: Estimate based on reported data.

2007: Estimate based on reported data.

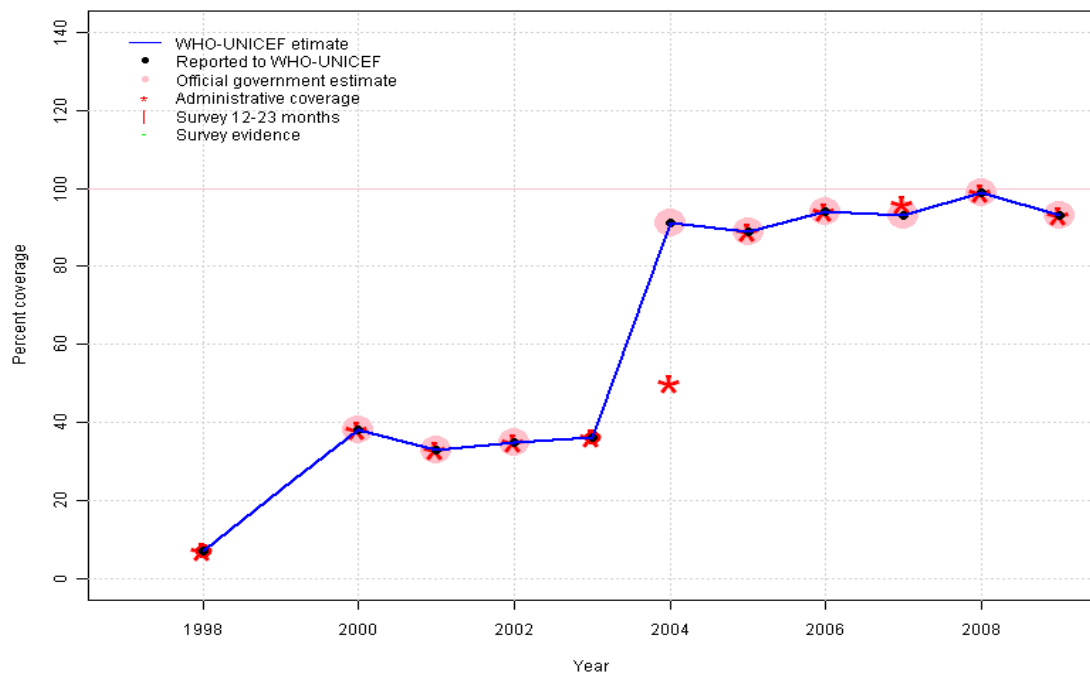
2008: Estimate based on reported data.

2009: Estimate based on reported data.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	NA	NA	NA	60	87	89	94	93	99	93
Reported	NA	NA	NA	NA	NA	NA	60	87	89	94	93	99	93
Official	NA	NA	NA	NA	NA	NA	60	87	89	94	93	99	93
Administrative	NA	NA	NA	NA	NA	NA	60	50	89	94	96	99	93
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Peru - Hib3

PER - Hib3



Description:

1998: Estimate based on reported data. Hib partially introduced in 1999 nationally in 2005 reporting started in 1998

1999: Estimate based on reported data. Missing or ignored reported value estimated by interpolation between reported values of 7 percent in 1998 and 38 percent in 2000.

2000: Estimate based on reported data.

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.

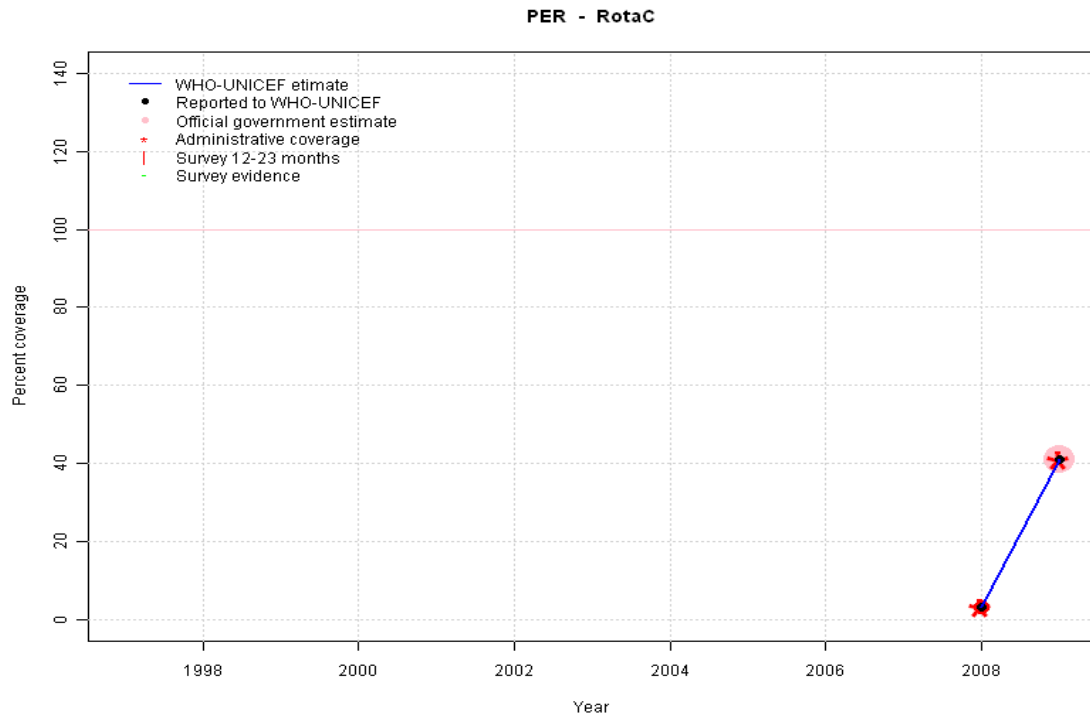
2009: Estimate based on reported data.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	7	23	38	33	35	36	91	89	94	93	99	93
Reported	NA	7	NA	38	33	35	36	91	89	94	93	99	93
Official	NA	NA	NA	38	33	35	NA	91	89	94	93	99	93
Administrative	NA	7	NA	38	33	35	36	50	89	94	96	99	93
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Peru - RotaC

Description:

2008: Estimate based on reported data. Rota partially introduced in 2007 nationally in 2009 reporting started in 2008
 2009: Estimate based on reported data.

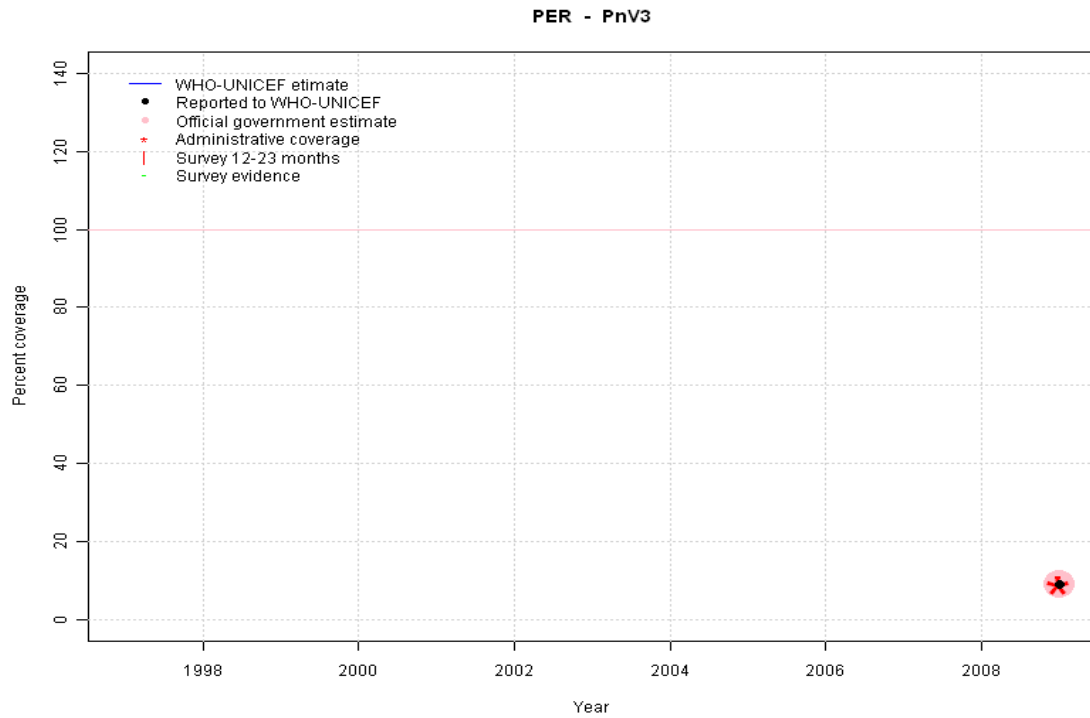


	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	41
Reported	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	41
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	41
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Peru - PnV3

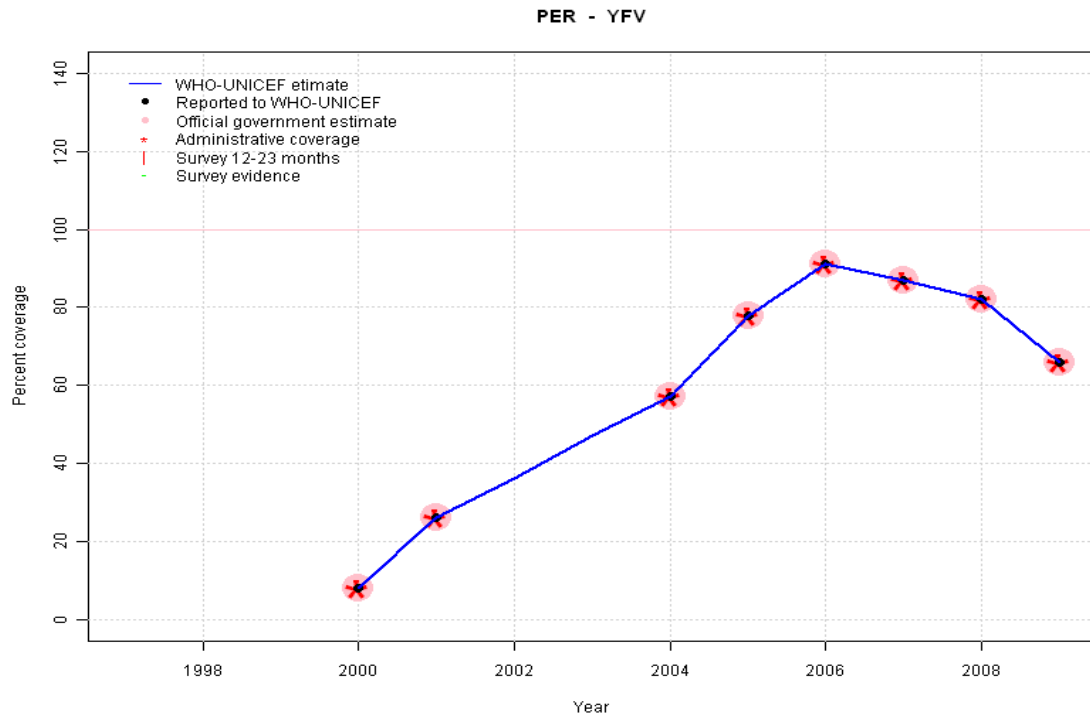
Description:

2009: Estimate based on reported data.



	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	9
Reported	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Peru - YFV



Description:

- 2000: Estimate based on reported data. YFV introduced nationally in 2002 reporting started in 2000
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data. Missing or ignored reported value estimated by interpolation between reported values of 26 percent in 2001 and 57 percent in 2004.
- 2003: Estimate based on reported data. Missing or ignored reported value estimated by interpolation between reported values of 26 percent in 2001 and 57 percent in 2004.
- 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 reported data. Due to vaccine shortages yellow fever vaccine administered in districts at risk only.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	8	26	36	47	57	78	91	87	82	66
Reported	NA	NA	NA	8	26	NA	NA	57	78	91	87	82	66
Official	NA	NA	NA	8	26	NA	NA	57	78	91	87	82	66
Administrative	NA	NA	NA	8	26	NA	NA	57	78	91	87	82	66
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Peru - survey details

2004 Peru Encuesta Demográfica y de Salud Familiar ENDES Continua 2004-2005

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	95	18-29 m	859	68
BCG	History	30	18-29 m	859	68
BCG	Card	65	18-29 m	859	68
BCG	Card or History	95	18-29 m	859	68
DTP1	C or H <12 months	97	18-29 m	859	68
DTP1	History	30	18-29 m	859	68
DTP1	Card or History	98	18-29 m	859	68
DTP1	Card	68	18-29 m	859	68
DTP3	Card or History	85	18-29 m	859	68
DTP3	Card	66	18-29 m	859	68
DTP3	C or H <12 months	82	18-29 m	859	68
DTP3	History	20	18-29 m	859	68
MCV	History	27	18-29 m	859	68
MCV	Card or History	87	18-29 m	859	68
MCV	Card	60	18-29 m	859	68
MCV	C or H <12 months	83	18-29 m	859	68
Pol1	History	29	18-29 m	859	68
Pol1	Card or History	97	18-29 m	859	68
Pol1	C or H <12 months	96	18-29 m	859	68
Pol1	Card	68	18-29 m	859	68
Pol3	History	14	18-29 m	859	68
Pol3	C or H <12 months	76	18-29 m	859	68
Pol3	Card	66	18-29 m	859	68
Pol3	Card or History	79	18-29 m	859	68

2002 Perú Encuesta Demográfica y de Salud Familiar, ENDES Continua 2004

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <18 months	94	18-29 m	455	67
BCG	Card	62	18-29 m	455	67
BCG	Card or history	94	18-29 m	455	67
BCG	History	32	18-29 m	455	67
DTP1	C or H <18 months	96	18-29 m	455	67

DTP1	Card or history	97	18-29 m	455	67
DTP1	History	32	18-29 m	455	67
DTP1	Card	66	18-29 m	455	67
DTP3	Card	64	18-29 m	455	67
DTP3	History	23	18-29 m	455	67
DTP3	C or H <18 months	83	18-29 m	455	67
DTP3	Card or history	87	18-29 m	455	67
MCV	Card or history	90	18-29 m	455	67
MCV	History	30	18-29 m	455	67
MCV	C or H <18 months	85	18-29 m	455	67
MCV	Card	60	18-29 m	455	67
Pol1	C or H <18 months	96	18-29 m	455	67
Pol1	Card	66	18-29 m	455	67
Pol1	Card or history	97	18-29 m	455	67
Pol1	History	31	18-29 m	455	67
Pol3	History	16	18-29 m	455	67
Pol3	Card or history	81	18-29 m	455	67
Pol3	Card	65	18-29 m	455	67
Pol3	C or H <18 months	78	18-29 m	455	67

1999 Peru, Encuesta Demográfica y de Salud Familiar 2000, 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	96	12-23 m	2353	58
BCG	History	40	18-29 m	2353	58
BCG	Card	57	18-29 m	2353	58
DTP1	Card or History	96	12-23 m	2353	58
DTP1	History	39	18-29 m	2353	58
DTP1	Card	58	18-29 m	2353	58
DTP3	Card or History	85	12-23 m	2353	58
DTP3	Card	56	18-29 m	2353	58
DTP3	History	29	18-29 m	2353	58
MCV	Card or History	84	12-23 m	2353	58
MCV	Card	51	18-29 m	2353	58
MCV	History	34	18-29 m	2353	58
Pol1	Card or History	96	12-23 m	2353	58
Pol1	Card	58	18-29 m	2353	58
Pol1	History	38	18-29 m	2353	58
Pol3	Card or History	76	12-23 m	2353	58

Peru - survey details

Pol3	Card	54	18-29 m	2353	58
Pol3	History	22	18-29 m	2353	58

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

Peru

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	62
1998	64
1999	65
2000	66
2001	62
2002	62
2003	63
2004	65
2005	65
2006	66
2007	67
2008	67
2009	67

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.