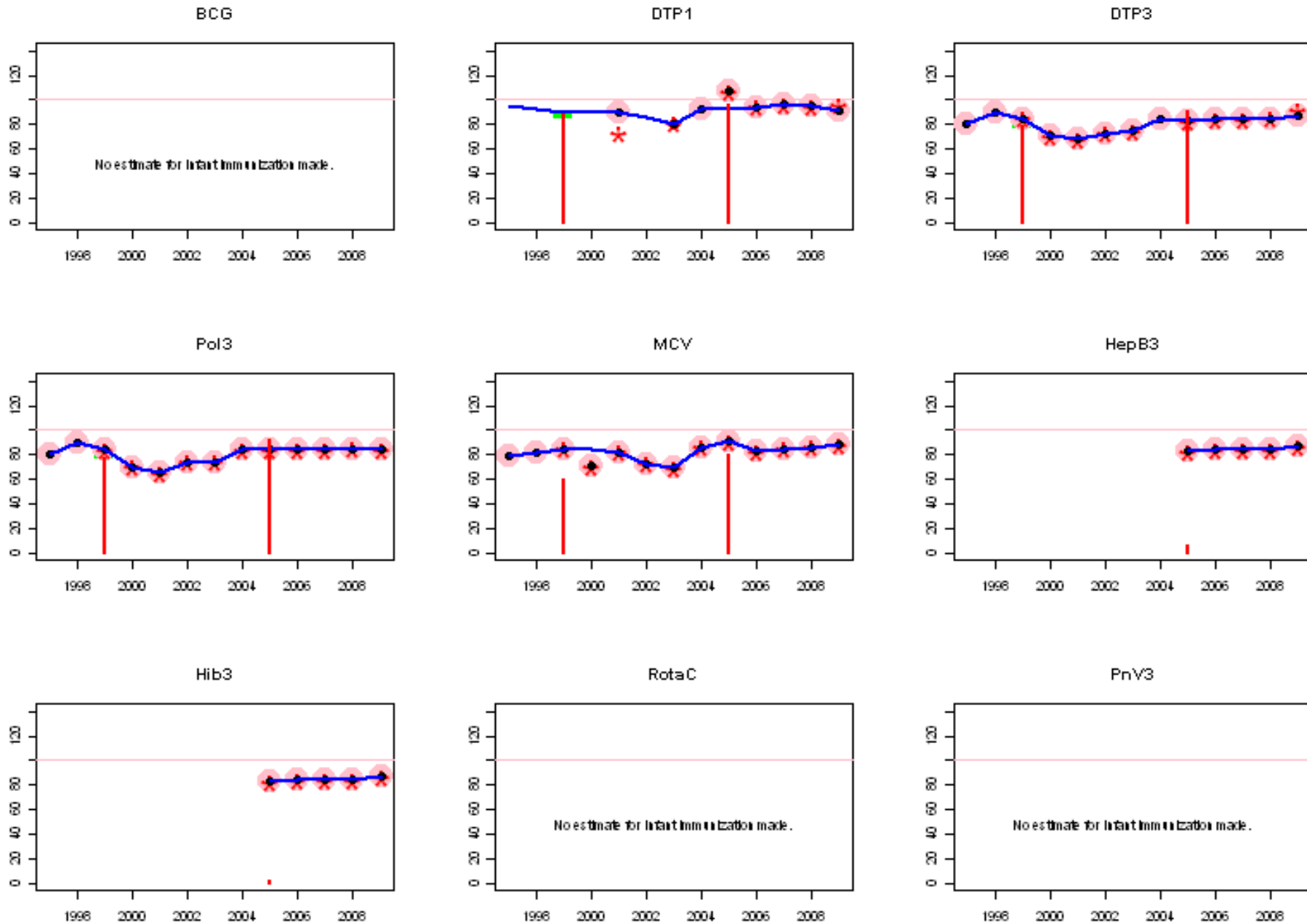
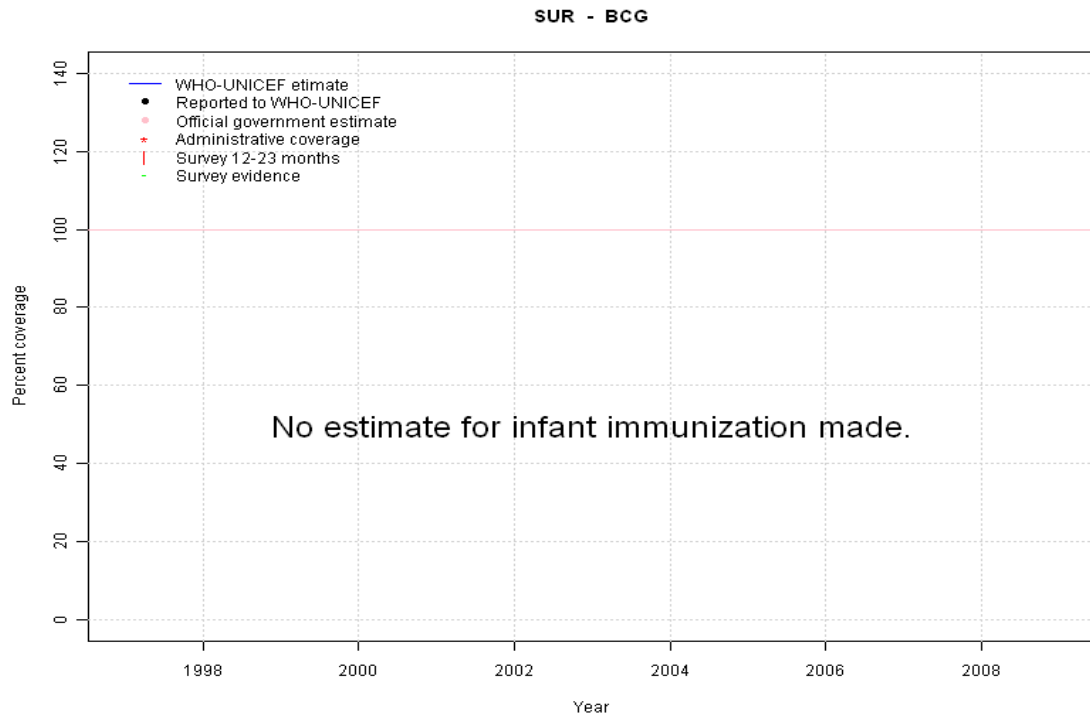


Suriname: WHO and UNICEF estimates of immunization coverage, 1997 - 2009

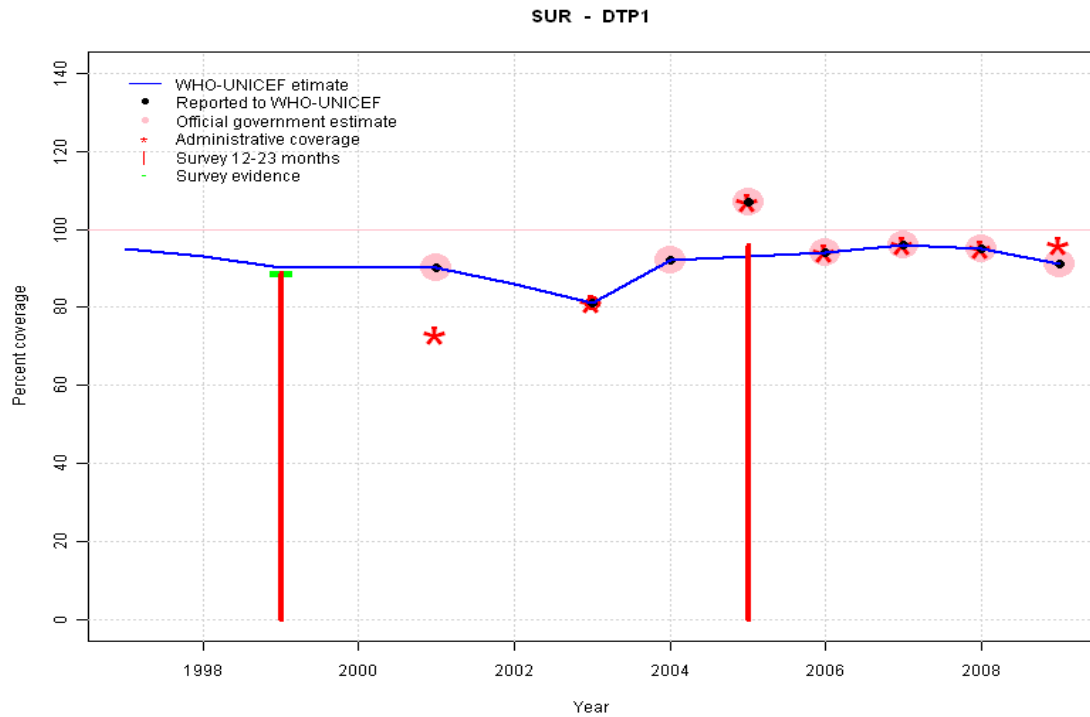


Suriname - BCG



	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

Suriname - DTP1

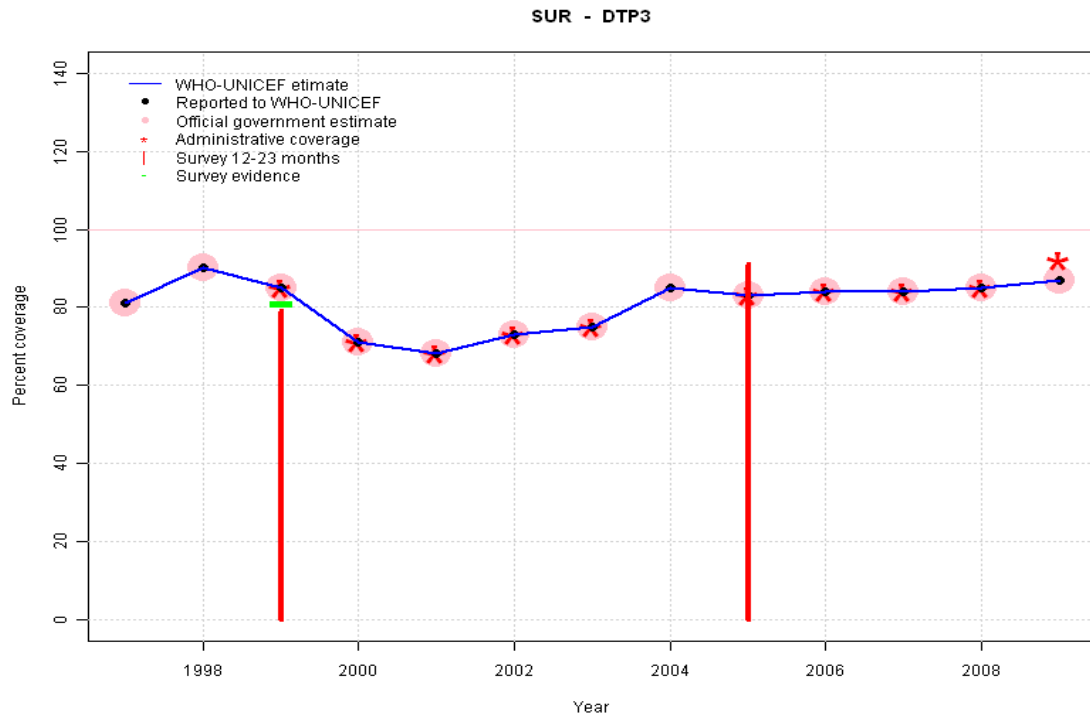


Description:

- 1997: Legacy estimate.
- 1998: Estimate interpolated between 1997 and 1999 estimates.
- 1999: Estimate based on interpolated value between reported data. Survey (89 percent) confirms trend in reported data.
- 2000: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2001 reported value of 90 percent.
- 2001: Estimate based on reported data.
- 2002: Estimate based on trend in reported data. Missing or ignored reported value estimated by interpolation between reported values of 90 percent in 2001 and 81 percent in 2003.
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data.
- 2005: Estimate based on trend in reported data. Missing or ignored reported value estimated by interpolation between reported values of 92 percent in 2004 and 94 percent in 2006. Survey results of 96 percent ignored by working group. Survey conducted for year of pentavalent introduction. 2005 reported data (107 percent) ignored; greater than 100 percent. 2005 reported data (107 percent) inconsistent with data from other years.
- 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	95	93	90	90	90	86	81	92	93	94	96	95	91
Reported	NA	NA	NA	NA	90	NA	81	92	107	94	96	95	91
Official	NA	NA	NA	NA	90	NA	NA	92	107	94	96	95	91
Administrative	NA	NA	NA	NA	73	NA	81	NA	107	94	96	95	96
Survey	NA	NA	89	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Suriname - DTP3



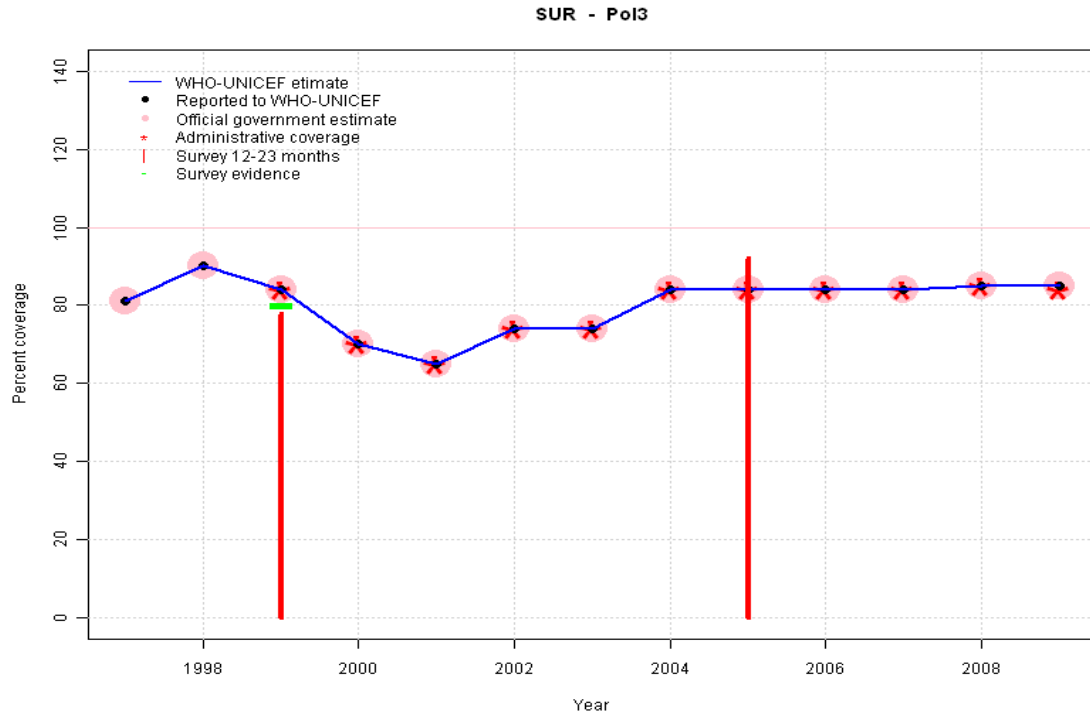
Description:

- 1997: Legacy estimate.
- 1998: Estimate based on reported data.
- 1999: Estimate based on reported data (85 percent) confirmed by survey (81 percent). Survey results (79 percent) adjusted for recall bias to 81 percent based on first dose card or history coverage (89 percent) and documented drop-out between first (84 percent) and third (76 percent) doses.
- 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 follows reported data.
- 2005: Estimate based on reported data. Survey results of 91 percent ignored by working group. Survey conducted for year of pentavalent introduction.
- 2006: Estimate follows 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	81	90	85	71	68	73	75	85	83	84	84	85	87
Reported	81	90	85	71	68	73	75	85	83	84	84	85	87
Official	81	90	85	71	68	73	75	85	83	84	84	85	87
Administrative	NA	NA	85	71	68	73	75	NA	83	84	84	85	92
Survey	NA	NA	81	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Suriname - Pol3

Description:



1997: Legacy estimate.

1998: Estimate based on reported data.

1999: Estimate based on reported data (84 percent) confirmed by survey (80 percent). Survey results (78 percent) adjusted for recall bias to 80 percent based on first dose card or history coverage (88 percent) and documented drop-out between first (84 percent) and third (76 percent) doses.

2000: Estimate follows reported data.

2001: Estimate based on reported data.

2002: Estimate based on reported data.

2003: Estimate based on reported data.

2004: Estimate follows reported data.

2005: Estimate based on reported data. Survey results of 92 percent ignored by working group. Survey conducted for year of pentavalent introduction.

2006: Estimate follows reported data.

2007: Estimate based on reported data.

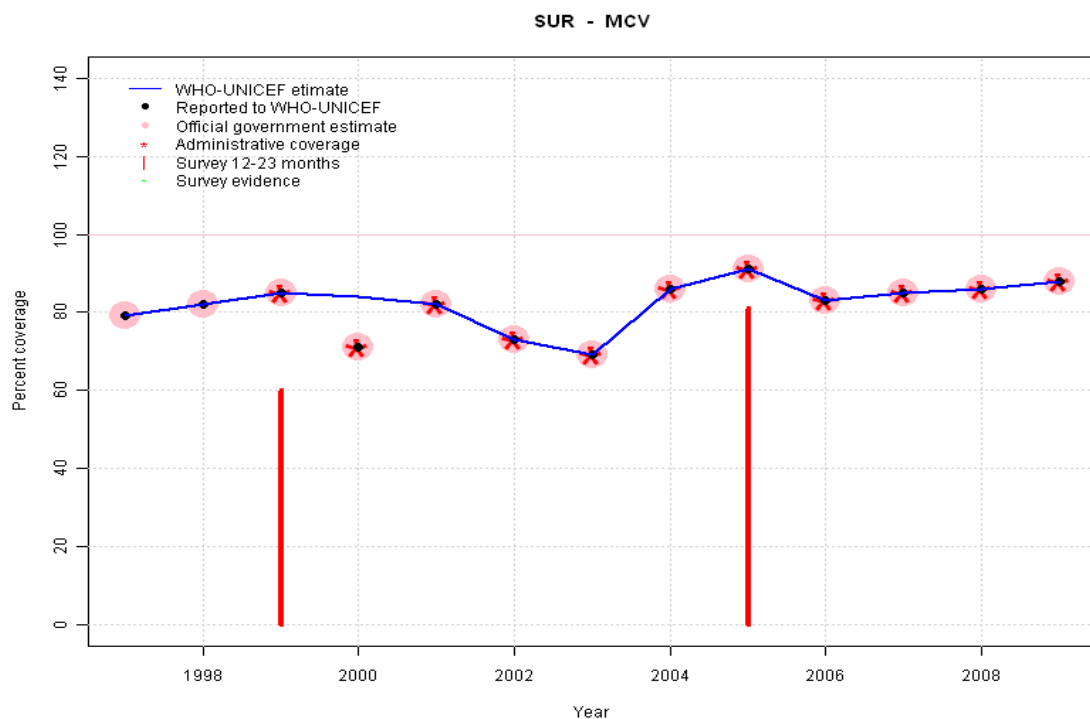
2008: Estimate based on reported data.

2009: Estimate based on reported data.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	81	90	84	70	65	74	74	84	84	84	84	85	85
Reported	81	90	84	70	65	74	74	84	84	84	84	85	85
Official	81	90	84	70	65	74	74	84	84	84	84	85	85
Administrative	NA	NA	84	70	65	74	74	84	84	84	84	85	84
Survey	NA	NA	80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Suriname - MCV

Description:



1997: Legacy estimate.

1998: Estimate based on reported data.

1999: Estimate based on reported data. Survey results of 60 percent ignored by working group. Measles vaccination is recommended between 12 and 23 months of age. Survey cohort underestimates coverage.

2000: Estimate based on trend in reported data. Missing or ignored reported value estimated by interpolation between reported values of 85 percent in 1999 and 82 percent in 2001. 2000 reported data (71 percent) inconsistent with data from other years.

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 of 81 percent ignored by working group. Survey conducted for year of pentavalent introduction. Reported coverage includes doses administered during campaign.

2006: Estimate based on reported data.

2007: Estimate based on reported data.

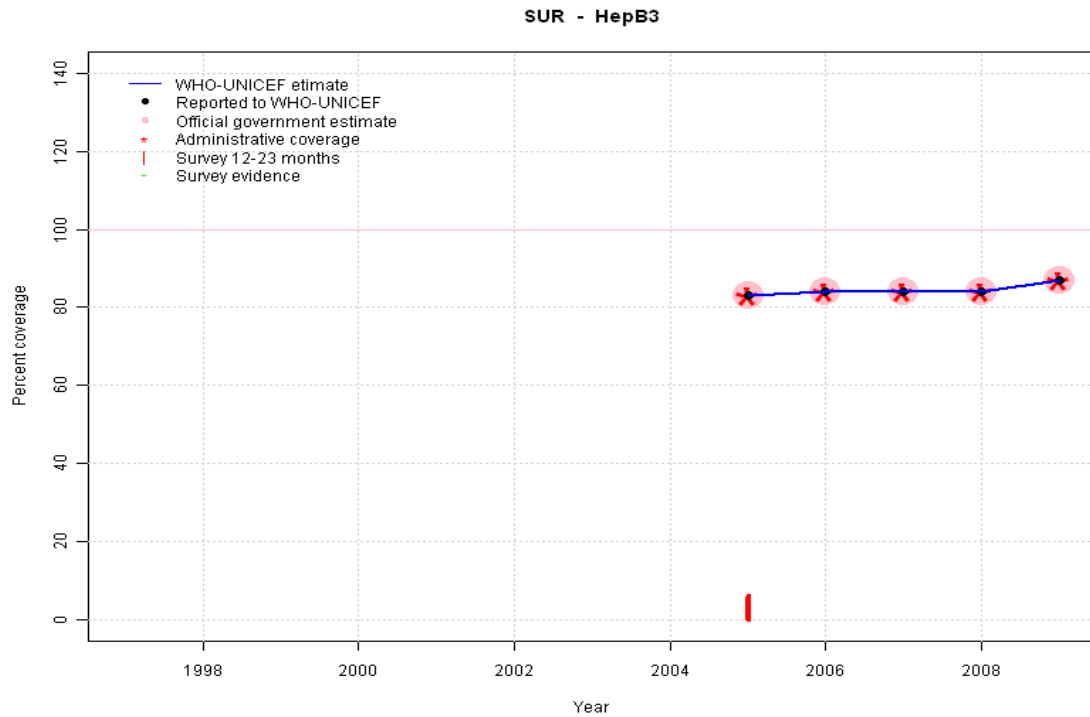
2008: Estimate based on reported data.

2009: Estimate based on reported data.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	79	82	85	84	82	73	69	86	91	83	85	86	88
Reported	79	82	85	71	82	73	69	86	91	83	85	86	88
Official	79	82	85	71	82	73	69	86	91	83	85	86	88
Administrative	NA	NA	85	71	82	73	69	86	91	83	85	86	88
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Suriname - HepB3

Description:



2005: Estimate based on reported data. Survey results of 6 percent ignored by working group. Survey conducted for year of pentavalent introduction. HepB vaccination introduced in 2003 sub-nationally. Reporting started in 2005, after general introduction of HepB nationwide. Vaccine presentation is DTP-HepB-Hib.

2006: Estimate based on reported data.

2007: Estimate based on reported data.

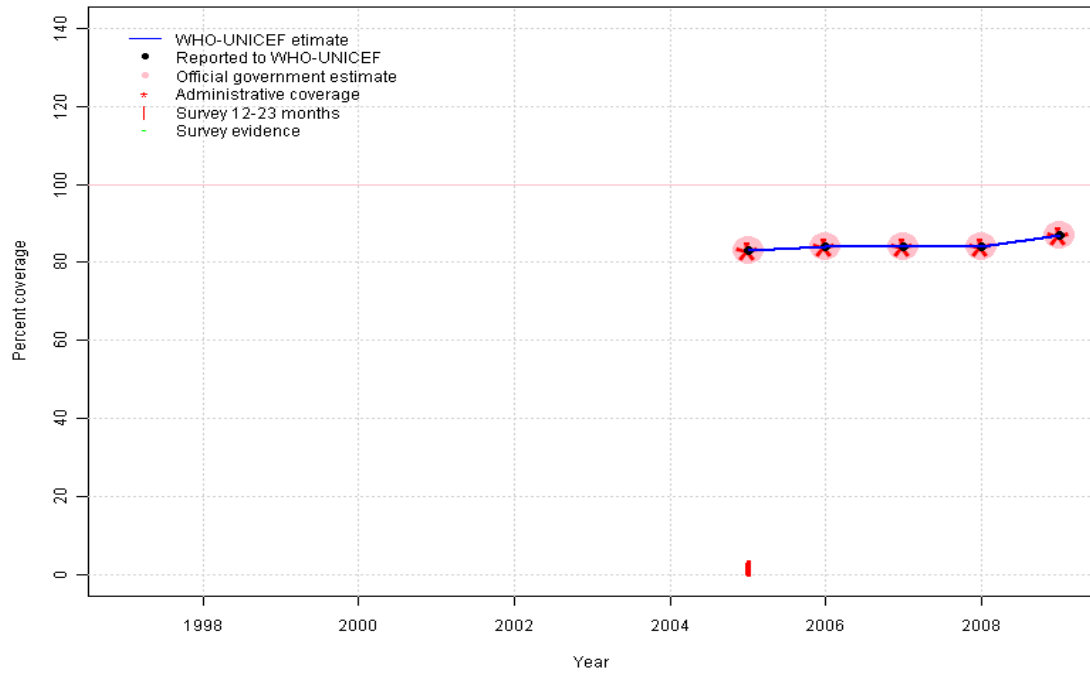
2008: Estimate based on reported data.

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	NA	NA	83	84	84	84	87
Reported	NA	NA	NA	NA	NA	NA	NA	NA	83	84	84	84	87
Official	NA	NA	NA	NA	NA	NA	NA	NA	83	84	84	84	87
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	83	84	84	84	87
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Suriname - Hib3

SUR - Hib3



Description:

2005: Estimate based on reported data. Survey results of 3 percent ignored by working group. Survey conducted for year of pentavalent introduction. Hib vaccination introduced in 2003 sub-nationally. Reporting started in 2005, after general introduction of HepB nationwide. Vaccine presentation is DTP-HepB-Hib.

2006: Estimate based on reported data.

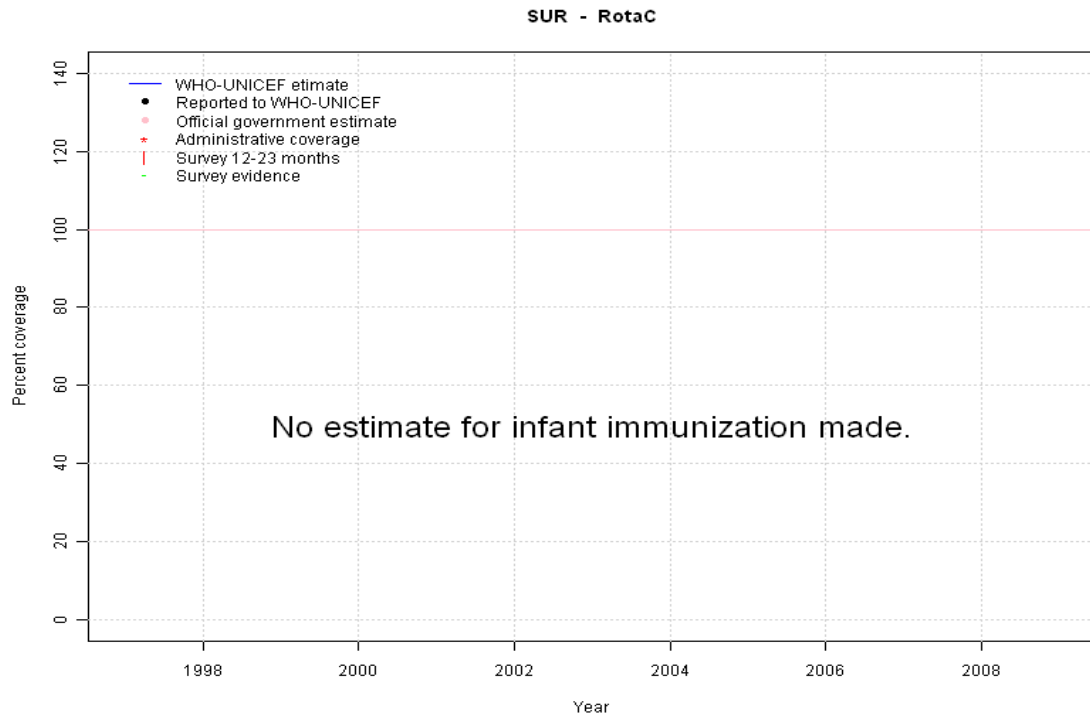
2007: Estimate based on reported data.

2008: Estimate based on reported data.

2009: Estimate based on reported data.

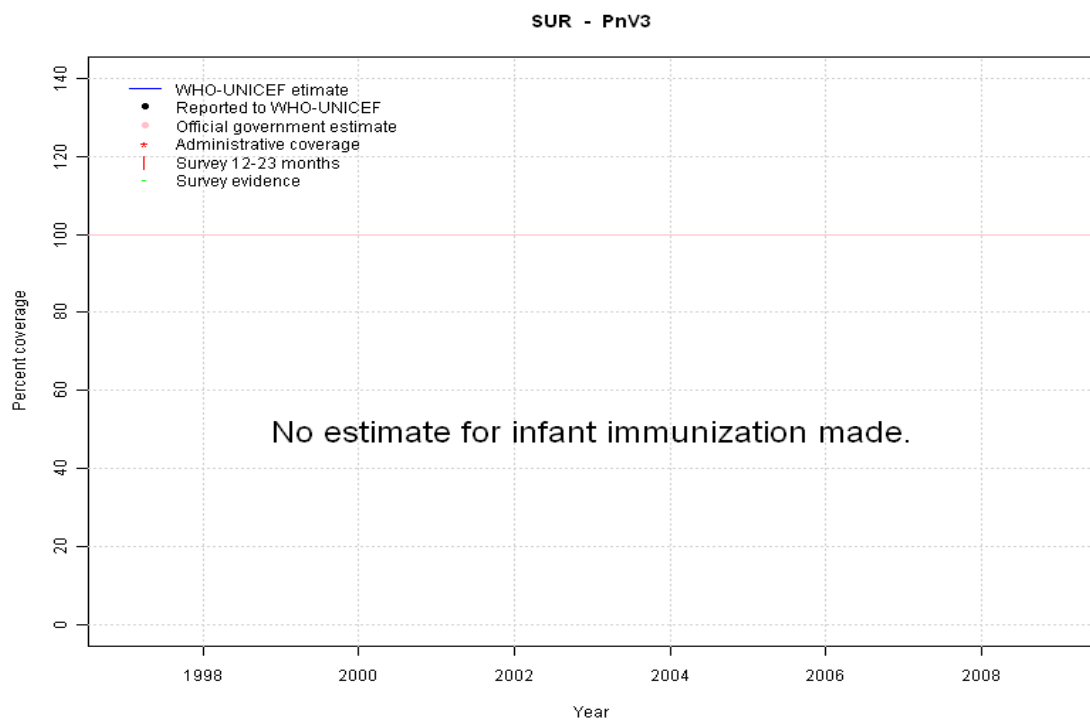
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	83	84	84	84	87
Reported	NA	NA	NA	NA	NA	NA	NA	NA	83	84	84	84	87
Official	NA	NA	NA	NA	NA	NA	NA	NA	83	84	84	84	87
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	83	84	84	84	87
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Suriname - 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

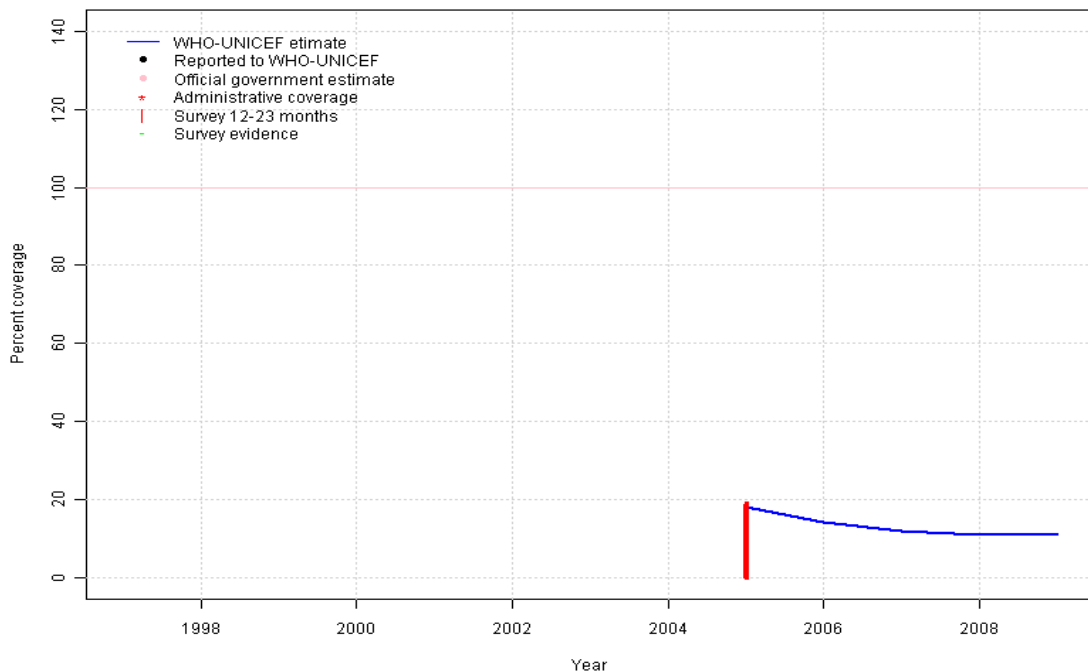
Suriname - PnV3



	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

Suriname - YFV

SUR - YFV



Description:

- 2005: Estimate assigned by working group. YFV introduced in 2005 for high-risk areas only. Ninety-seven percent coverage was achieved in 18 percent of the population. Survey results of 19 percent ignored by working group. Survey conducted for year of pentavalent introduction. YFV partially introduced in 2004. Reporting started in 2005
- 2006: Estimate assigned by working group. YFV introduced in 2005 for high-risk areas only. Eighty percent coverage was achieved in 17 percent of the population.
- 2007: Estimate assigned by working group. YFV introduced in 2005 for high-risk areas only. Eighty-two percent coverage was achieved in 15 percent of the population.
- 2008: Estimate assigned by working group. YFV introduced in 2005 for high-risk areas only. Seventy-one percent coverage was achieved in 16 percent of the population.
- 2009: Estimate assigned by working group. Estimate extrapolated from 2008 estimate. No reported data provided.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	18	14	12	11	11
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

Suriname - survey details

2005 Suriname Multiple Indicator Cluster Survey 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
DTP1	C or H <12 months	95	12-23 m	412	81
DTP1	Card	84	12-23 m	412	81
DTP1	History	12	12-23 m	412	81
DTP1	Card or History	96	12-23 m	412	81
DTP3	Card	84	12-23 m	412	81
DTP3	History	7	12-23 m	412	81
DTP3	Card or History	91	12-23 m	412	81
DTP3	C or H <12 months	86	12-23 m	412	81
HepB1	History	0	12-23 m	412	81
HepB1	Card or History	9	12-23 m	412	81
HepB1	C or H <12 months	9	12-23 m	412	81
HepB1	Card	9	12-23 m	412	81
HepB3	C or H <12 months	3	12-23 m	412	81
HepB3	Card or History	6	12-23 m	412	81
HepB3	Card	6	12-23 m	412	81
HepB3	History	0	12-23 m	412	81
Hib1	Card	4	12-23 m	412	81
Hib1	History	0	12-23 m	412	81
Hib1	Card or History	4	12-23 m	412	81
Hib1	C or H <12 months	4	12-23 m	412	81
Hib3	Card or History	3	12-23 m	412	81
Hib3	C or H <12 months	3	12-23 m	412	81
Hib3	History	0	12-23 m	412	81
Hib3	Card	3	12-23 m	412	81
MCV	History	15	12-23 m	412	81
MCV	Card or History	81	12-23 m	412	81
MCV	C or H <12 months	80	12-23 m	412	81
MCV	Card	66	12-23 m	412	81
Pol1	C or H <12 months	97	12-23 m	412	81

Pol1	Card	84	12-23 m	412	81
Pol1	Card or History	98	12-23 m	412	81
Pol1	History	14	12-23 m	412	81
Pol3	History	9	12-23 m	412	81
Pol3	Card or History	92	12-23 m	412	81
Pol3	C or H <12 months	88	12-23 m	412	81
Pol3	Card	83	12-23 m	412	81
YFV	C or H <12 months	18	12-23 m	412	81
YFV	Card	12	12-23 m	412	81
YFV	History	7	12-23 m	412	81
YFV	Card or History	19	12-23 m	412	81

1999 Suriname Multiple Indicator Cluster Survey 2000, 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
DTP1	Card or History	89	12-23 m	376	85
DTP1	History	5	12-23 m	376	85
DTP1	Card	84	12-23 m	376	85
DTP3	History	3	12-23 m	376	85
DTP3	Card	76	12-23 m	376	85
DTP3	Card or History	79	12-23 m	376	85
MCV	History	5	12-23 m	376	85
MCV	Card or History	60	12-23 m	376	85
MCV	Card	56	12-23 m	376	85
Pol1	History	4	12-23 m	376	85
Pol1	Card	84	12-23 m	376	85
Pol1	Card or History	88	12-23 m	376	85
Pol3	Card or History	78	12-23 m	376	85
Pol3	History	3	12-23 m	376	85
Pol3	Card	76	12-23 m	376	85

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

Suriname

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	92
1998	92
1999	92
2000	92
2001	92
2002	92
2003	92
2004	92
2005	92
2006	93
2007	93
2008	93
2009	93

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.