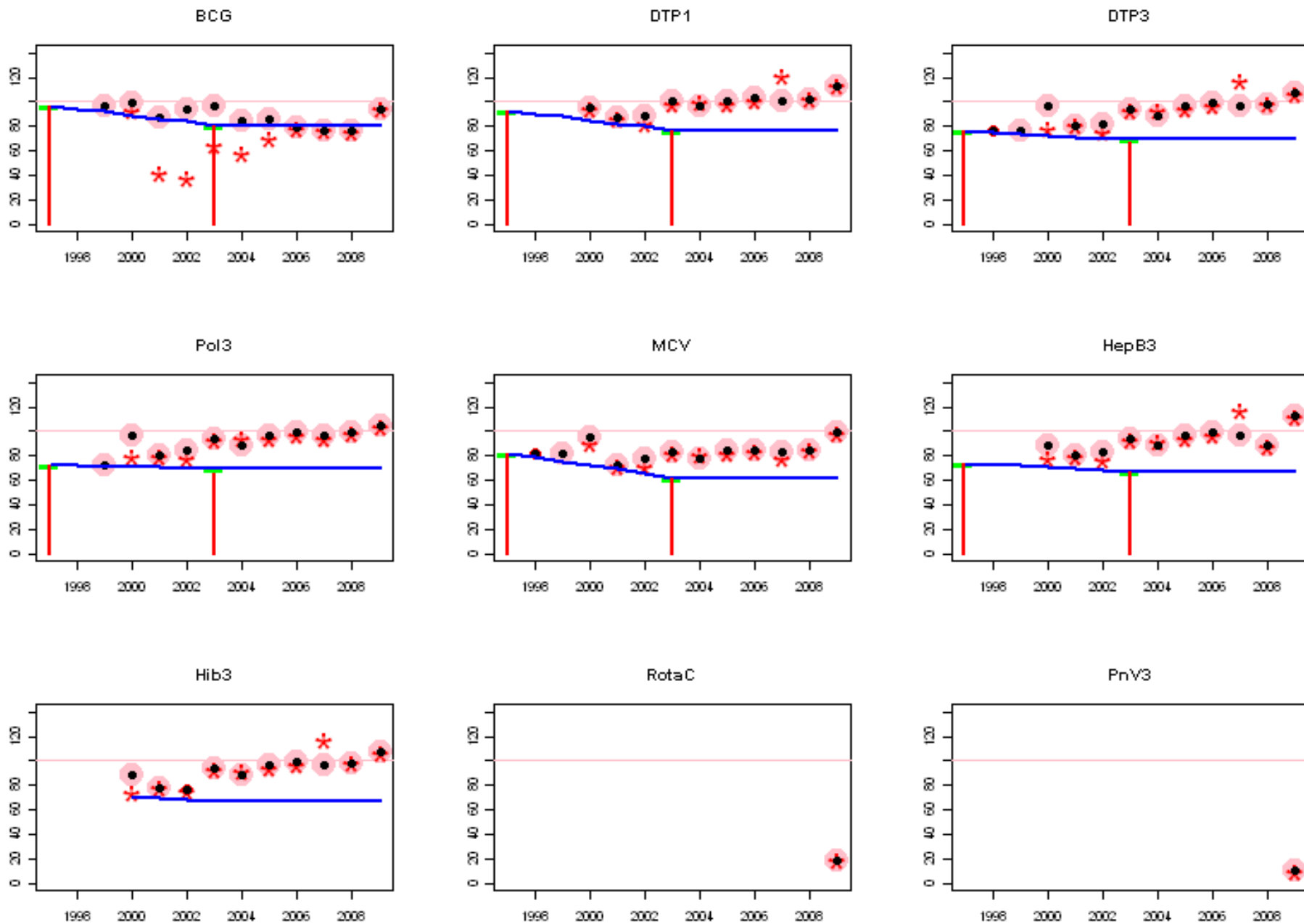
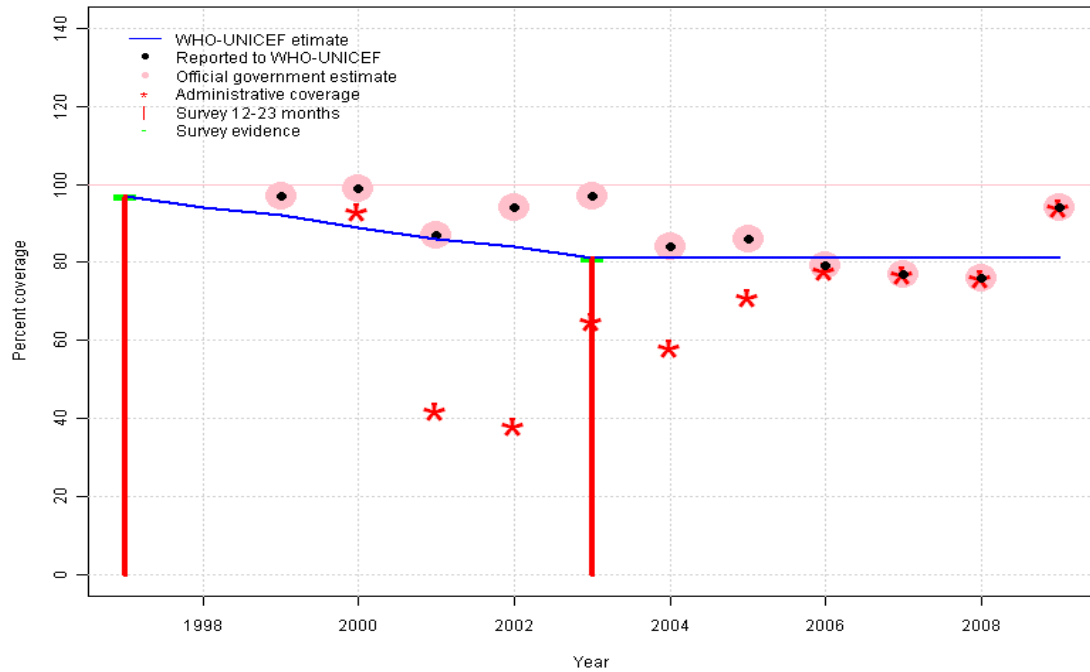


South Africa: WHO and UNICEF estimates of immunization coverage, 1997 - 2009



# South Africa - BCG

ZAF - BCG



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	97	94	92	89	86	84	81	81	81	81	81	81	81
Reported	NA	NA	97	99	87	94	97	84	86	79	77	76	94
Official	NA	NA	97	99	87	94	97	84	86	79	77	76	94
Administrative	NA	NA	NA	93	42	38	65	58	71	78	77	76	94
Survey	97	NA	NA	NA	NA	NA	81	NA	NA	NA	NA	NA	NA

## Description:

1997: Legacy estimate.

1998: Estimate interpolated between 1997 and 2003 estimates.

1999: Estimate interpolated between 1997 and 2003 estimates.

2000: Estimate interpolated between 1997 and 2003 estimates.

2001: Estimate interpolated between 1997 and 2003 estimates.

2002: Estimate interpolated between 1997 and 2003 estimates.

2003: Estimate based on survey results. Reported data (97 percent) not consistent with survey results (81 percent).

2004: Estimate extrapolated from 2003 level (81 percent).

2005: Estimate extrapolated from 2003 level (81 percent).

2006: Estimate extrapolated from 2003 level (81 percent).

2007: Estimate extrapolated from 2003 level (81 percent).

2008: Estimate extrapolated from 2003 level (81 percent).

2009: Estimate extrapolated from 2003 level (81 percent). 2009 reported data (94 percent) inconsistent with data from other years.

# South Africa - DTP1



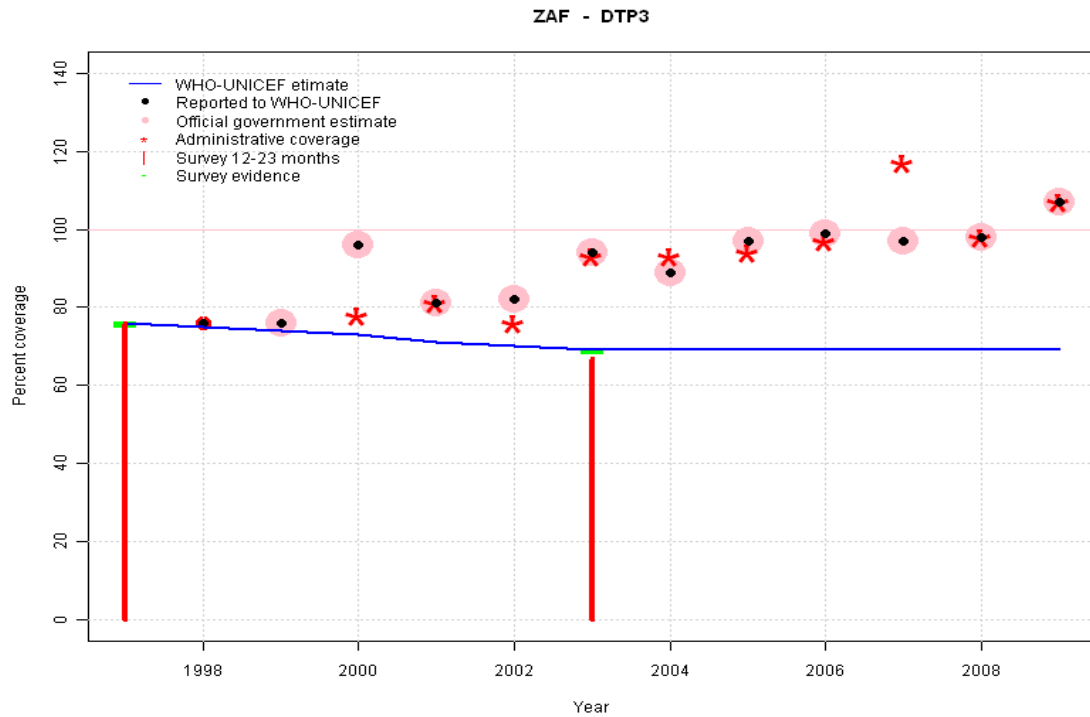
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	93	90	88	85	82	80	77	77	77	77	77	77	77
Reported	NA	NA	NA	95	87	88	100	97	101	103	101	102	113
Official	NA	NA	NA	95	87	88	100	97	101	103	101	102	113
Administrative	NA	NA	NA	94	87	82	99	100	98	101	121	102	113
Survey	93	NA	NA	NA	NA	NA	77	NA	NA	NA	NA	NA	NA

## Description:

- 1997: Legacy estimate.
- 1998: Estimate interpolated between 1997 and 2003 estimates.
- 1999: Estimate interpolated between 1997 and 2003 estimates.
- 2000: Estimate interpolated between 1997 and 2003 estimates.
- 2001: Estimate interpolated between 1997 and 2003 estimates.
- 2002: Estimate interpolated between 1997 and 2003 estimates.
- 2003: Estimate based on survey results. Reported data (99 percent) not consistent with survey results (77 percent).
- 2004: Estimate extrapolated from 2003 level (77 percent).
- 2005: Estimate extrapolated from 2003 level (77 percent). 2005 reported data (101 percent) ignored; greater than 100 percent.
- 2006: Estimate extrapolated from 2003 level (77 percent). 2006 reported data (103 percent) ignored; greater than 100 percent.
- 2007: Estimate extrapolated from 2003 level (77 percent). 2007 reported data (101 percent) ignored; greater than 100 percent.
- 2008: Estimate extrapolated from 2003 level (77 percent). 2008 reported data (102 percent) ignored; greater than 100 percent.
- 2009: Estimate extrapolated from 2003 level (77 percent). 2009 reported data (113 percent) ignored; greater than 100 percent. 2009 reported data (113 percent) inconsistent with data from other years.

# South Africa - DTP3

## Description:

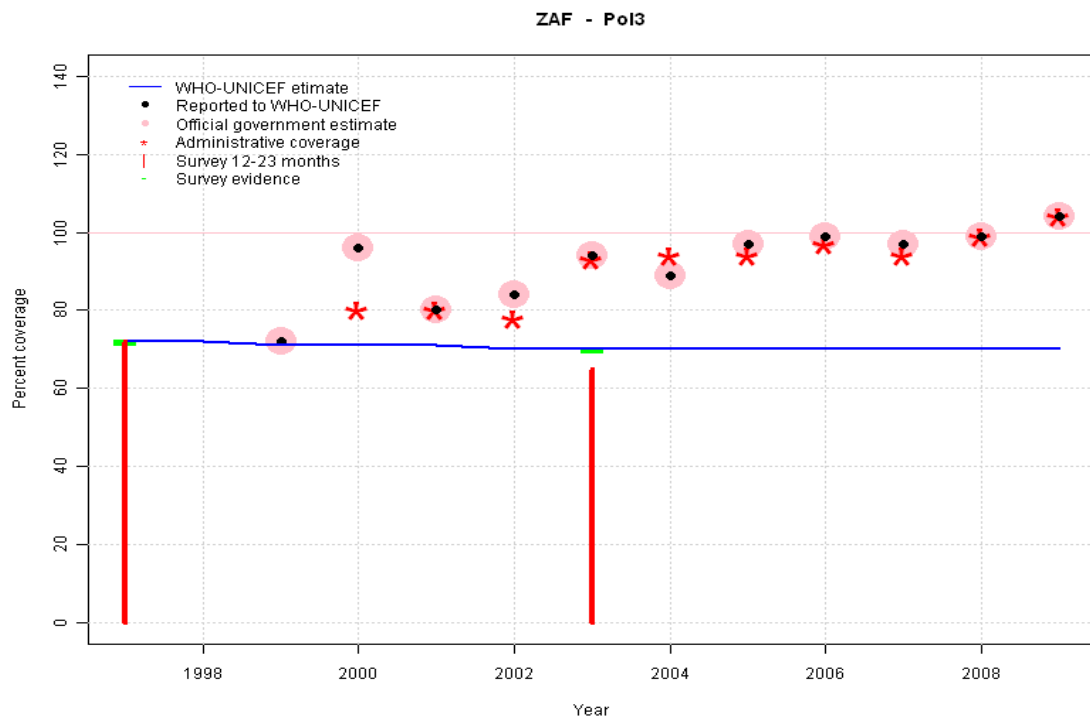


- 1997: Legacy estimate.
- 1998: Estimate interpolated between 1997 and 2003 estimates.
- 1999: Estimate interpolated between 1997 and 2003 estimates.
- 2000: Estimate interpolated between 1997 and 2003 estimates. 2000 reported data (96 percent) inconsistent with data from other years.
- 2001: Estimate interpolated between 1997 and 2003 estimates.
- 2002: Estimate interpolated between 1997 and 2003 estimates.
- 2003: Estimate based on survey results. Reported data (94 percent) not consistent with survey results (67 percent). Survey results (67 percent) adjusted for recall bias to 69 percent based on first dose card or history coverage (77 percent) and documented drop-out between first (68 percent) and third (61 percent) doses.
- 2004: Estimate extrapolated from 2003 level (69 percent).
- 2005: Estimate extrapolated from 2003 level (69 percent).
- 2006: Estimate extrapolated from 2003 level (69 percent).
- 2007: Estimate extrapolated from 2003 level (69 percent).
- 2008: Estimate extrapolated from 2003 level (69 percent).
- 2009: Estimate extrapolated from 2003 level (69 percent). 2009 reported data (107 percent) ignored; greater than 100 percent.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	76	75	74	73	71	70	69	69	69	69	69	69	69
Reported	NA	76	76	96	81	82	94	89	97	99	97	98	107
Official	NA	NA	76	96	81	82	94	89	97	99	97	98	107
Administrative	NA	NA	NA	78	81	76	93	93	94	97	117	98	107
Survey	76	NA	NA	NA	NA	NA	69	NA	NA	NA	NA	NA	NA

# South Africa - Pol3

## Description:

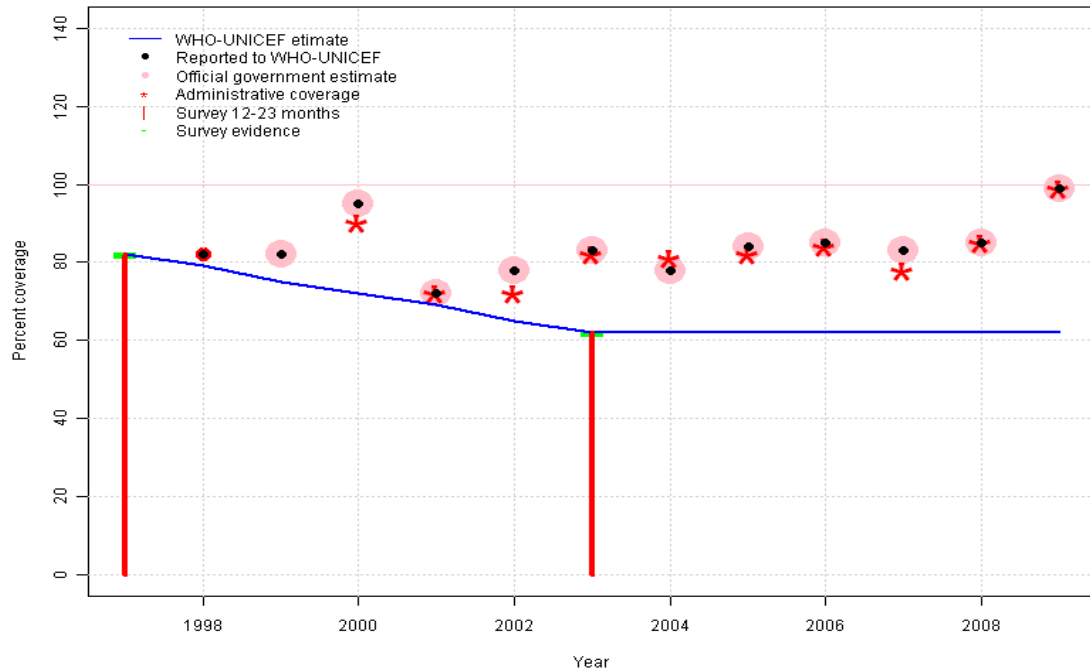


- 1997: Legacy estimate.
- 1998: Estimate interpolated between 1997 and 2003 estimates.
- 1999: Estimate interpolated between 1997 and 2003 estimates.
- 2000: Estimate interpolated between 1997 and 2003 estimates. 2000 reported data (96 percent) inconsistent with data from other years.
- 2001: Estimate interpolated between 1997 and 2003 estimates.
- 2002: Estimate interpolated between 1997 and 2003 estimates.
- 2003: Estimate based on survey results. Reported data (94 percent) not consistent with survey results (70 percent). Survey results (65 percent) adjusted for recall bias to 70 percent based on first dose card or history coverage (78 percent) and documented drop-out between first (70 percent) and third (63 percent) doses.
- 2004: Estimate extrapolated from 2003 level (70 percent).
- 2005: Estimate extrapolated from 2003 level (70 percent).
- 2006: Estimate extrapolated from 2003 level (70 percent).
- 2007: Estimate extrapolated from 2003 level (70 percent).
- 2008: Estimate extrapolated from 2003 level (70 percent).
- 2009: Estimate extrapolated from 2003 level (70 percent). 2009 reported data (104 percent) ignored; greater than 100 percent.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	72	72	71	71	71	70	70	70	70	70	70	70	70
Reported	NA	NA	72	96	80	84	94	89	97	99	97	99	104
Official	NA	NA	72	96	80	84	94	89	97	99	97	99	104
Administrative	NA	NA	NA	80	80	78	93	94	94	97	94	99	104
Survey	72	NA	NA	NA	NA	NA	70	NA	NA	NA	NA	NA	NA

# South Africa - MCV

ZAF - MCV



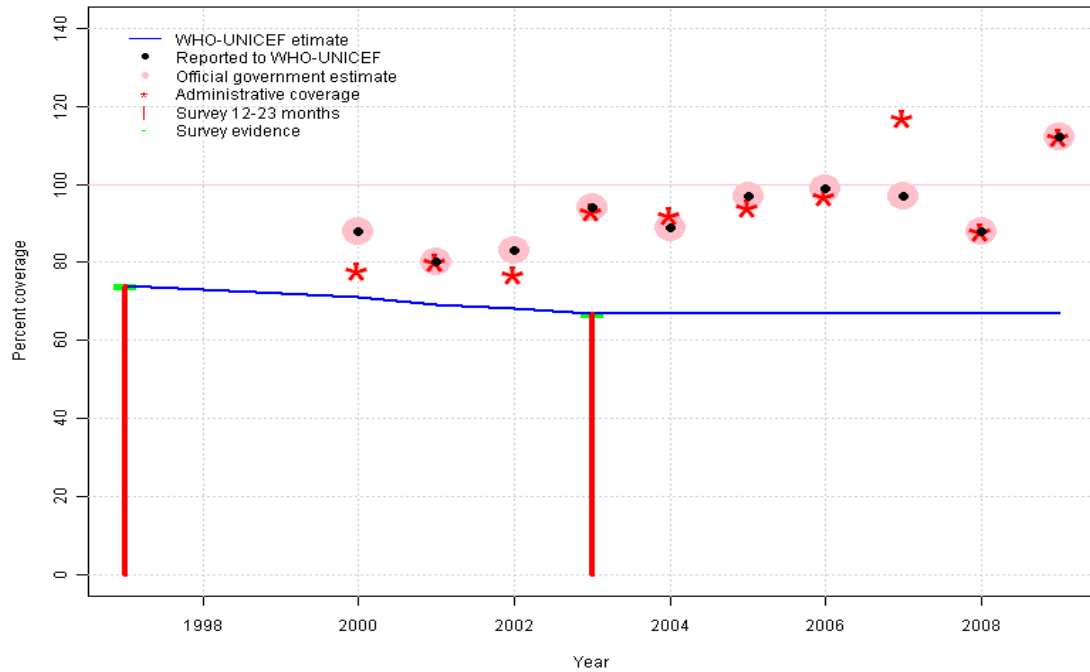
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	82	79	75	72	69	65	62	62	62	62	62	62	62
Reported	NA	82	82	95	72	78	83	78	84	85	83	85	99
Official	NA	NA	82	95	72	78	83	78	84	85	83	85	99
Administrative	NA	NA	NA	90	72	72	82	81	82	84	78	85	99
Survey	82	NA	NA	NA	NA	NA	62	NA	NA	NA	NA	NA	NA

## Description:

- 1997: Legacy estimate.
- 1998: Estimate interpolated between 1997 and 2003 estimates.
- 1999: Estimate interpolated between 1997 and 2003 estimates.
- 2000: Estimate interpolated between 1997 and 2003 estimates. 2000 reported data (95 percent) inconsistent with data from other years.
- 2001: Estimate interpolated between 1997 and 2003 estimates.
- 2002: Estimate interpolated between 1997 and 2003 estimates.
- 2003: Estimate based on survey results. Reported data (83 percent) not consistent with survey results (62 percent).
- 2004: Estimate extrapolated from 2003 level (62 percent).
- 2005: Estimate extrapolated from 2003 level (62 percent).
- 2006: Estimate extrapolated from 2003 level (62 percent).
- 2007: Estimate extrapolated from 2003 level (62 percent).
- 2008: Estimate extrapolated from 2003 level (62 percent).
- 2009: Estimate extrapolated from 2003 level (62 percent). 2009 reported data (99 percent) inconsistent with data from other years.

# South Africa - HepB3

ZAF - HepB3

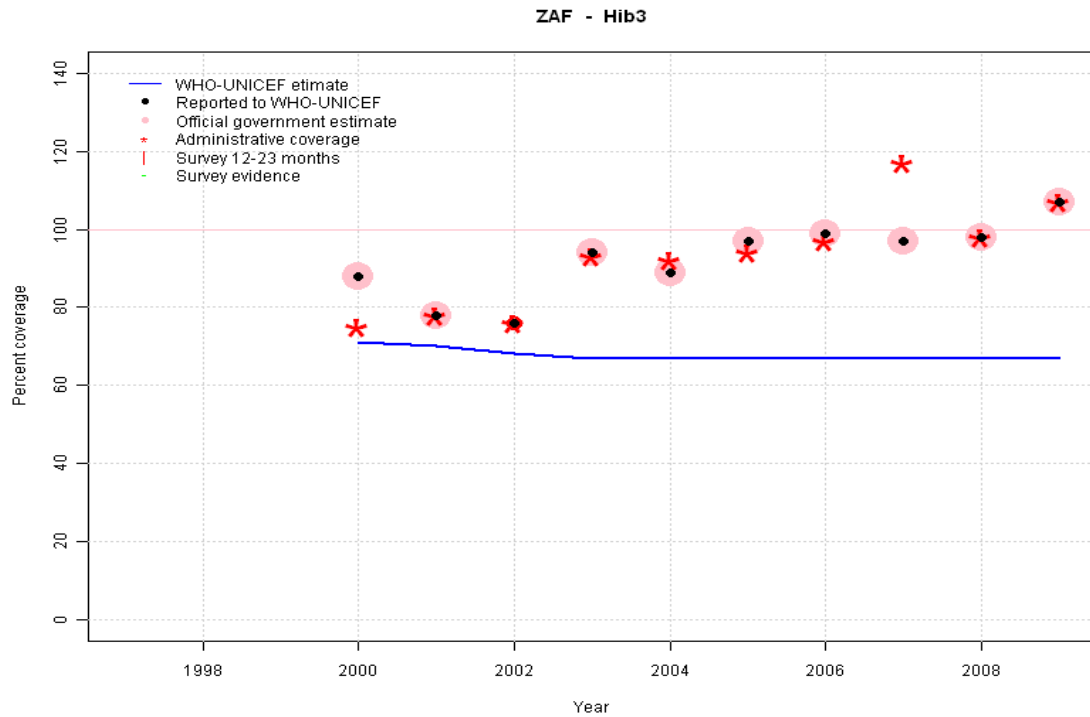


	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	74	73	72	71	69	68	67	67	67	67	67	67	67
Reported	NA	NA	NA	88	80	83	94	89	97	99	97	88	112
Official	NA	NA	NA	88	80	83	94	89	97	99	97	88	112
Administrative	NA	NA	NA	78	80	77	93	92	94	97	117	88	112
Survey	74	NA	NA	NA	NA	NA	67	NA	NA	NA	NA	NA	NA

## Description:

- 1997: Legacy estimate. HepB introduced in 1995. Reporting started in 1997. Vaccine presentation is HepB .
- 1998: Estimate interpolated between 1997 and 2003 estimates.
- 1999: Estimate interpolated between 1997 and 2003 estimates.
- 2000: Estimate interpolated between 1997 and 2003 estimates.
- 2001: Estimate interpolated between 1997 and 2003 estimates.
- 2002: Estimate interpolated between 1997 and 2003 estimates.
- 2003: Estimate based on survey results. Reported data (94 percent) not consistent with survey results (67 percent).
- 2004: Estimate extrapolated from 2003 level (67 percent).
- 2005: Estimate extrapolated from 2003 level (67 percent).
- 2006: Estimate extrapolated from 2003 level (67 percent).
- 2007: Estimate extrapolated from 2003 level (67 percent).
- 2008: Estimate extrapolated from 2003 level (67 percent).
- 2009: Estimate extrapolated from 2003 level (67 percent). 2009 reported data (112 percent) ignored; greater than 100 percent. 2009 reported data (112 percent) inconsistent with data from other years.

# South Africa - Hib3



## Description:

- 2000: Pentavalent DTP-HepB-Hib vaccine introduced in 2000. Hib introduced in 1999. Reporting started in 2000. Vaccine presentation is DTB-Hib.
- 2001: Estimate interpolated between 2000 and 2003 estimates.
- 2002: Estimate interpolated between 2000 and 2003 estimates.
- 2003: Hib vaccine given as combination vaccine. Level set to DTP3 survey results.
- 2004: Estimate extrapolated from 2003 level (67 percent).
- 2005: Estimate extrapolated from 2003 level (67 percent).
- 2006: Estimate extrapolated from 2003 level (67 percent).
- 2007: Estimate extrapolated from 2003 level (67 percent).
- 2008: Estimate extrapolated from 2003 level (67 percent).
- 2009: Estimate extrapolated from 2003 level (67 percent). 2009 reported data (107 percent) ignored; greater than 100 percent.

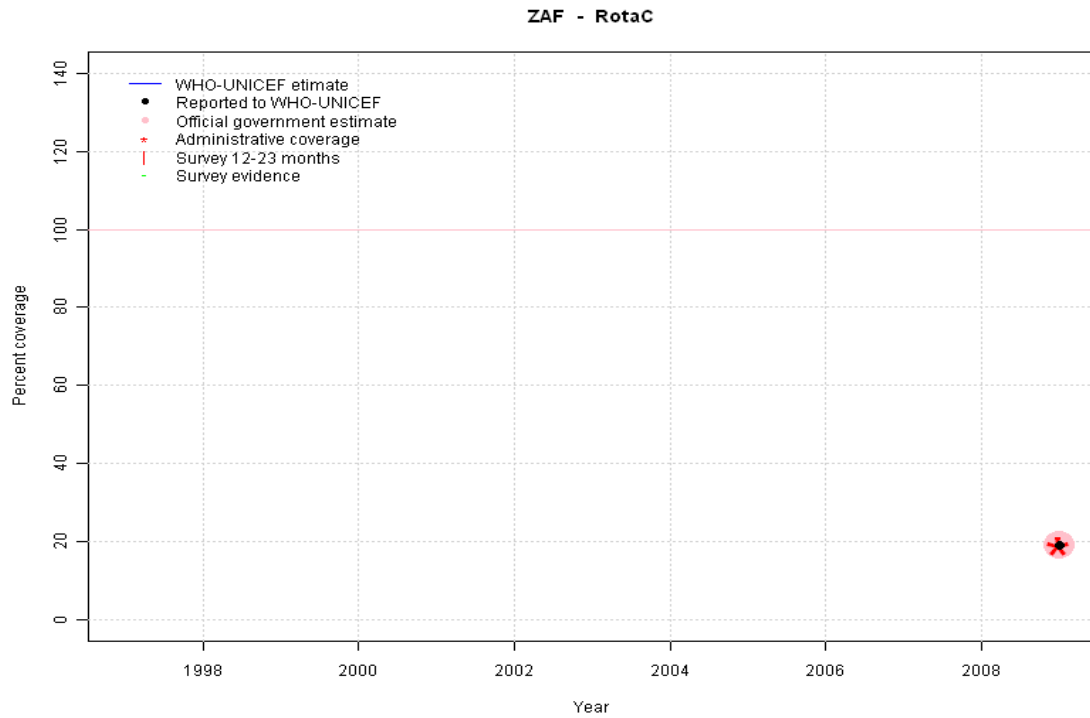
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	71	70	68	67	67	67	67	67	67	67
Reported	NA	NA	NA	88	78	76	94	89	97	99	97	98	107
Official	NA	NA	NA	88	78	NA	94	89	97	99	97	98	107
Administrative	NA	NA	NA	75	78	76	93	92	94	97	117	98	107
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA



# South Africa - RotaC

Description:

2009: Estimate based on reported data.

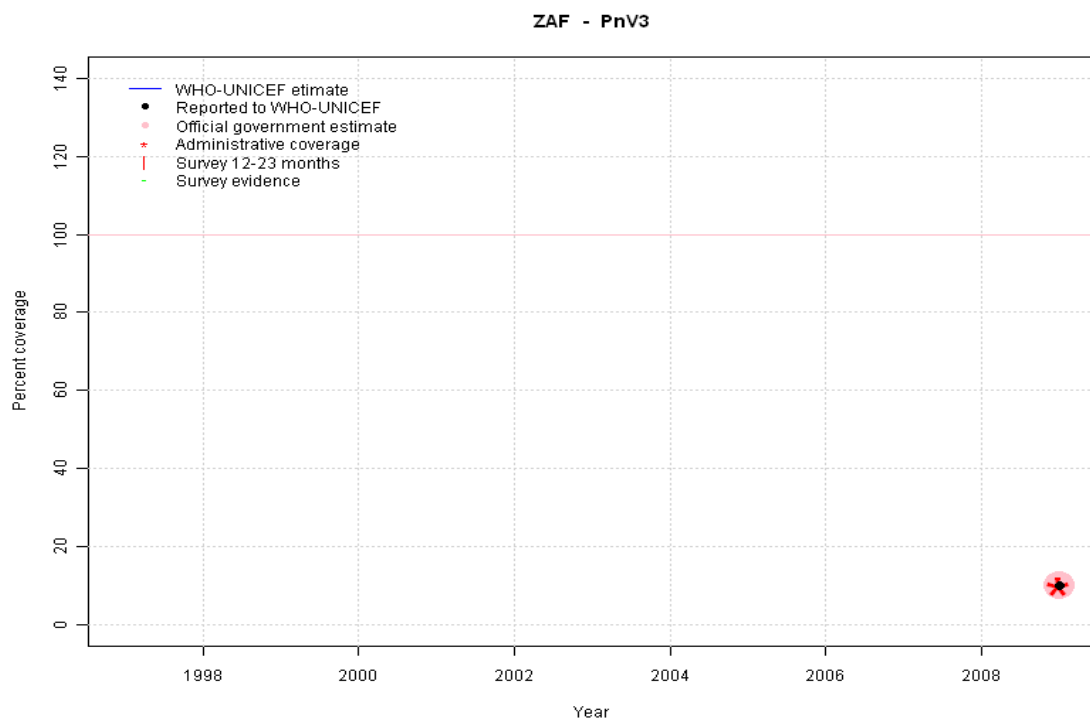


	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19
Reported	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

# South Africa - 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	10
Reported	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

# South Africa - survey details

## 2003 South Africa Demographic and Health Survey 2003

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	81	12-23 m	408	71
BCG	Card	71	12-23 m	408	71
BCG	Card or History	81	12-23 m	408	71
BCG	History	10	12-23 m	408	71
DTP1	History	9	12-23 m	408	71
DTP1	C or H <12 months	67	12-23 m	408	71
DTP1	Card	68	12-23 m	408	71
DTP1	Card or History	77	12-23 m	408	71
DTP3	C or H <12 months	50	12-23 m	408	71
DTP3	Card	61	12-23 m	408	71
DTP3	Card or History	67	12-23 m	408	71
DTP3	History	6	12-23 m	408	71
HepB1	History	8	12-23 m	408	71
HepB1	C or H <12 months	68	12-23 m	408	71
HepB1	Card or History	77	12-23 m	408	71
HepB1	Card	68	12-23 m	408	71
HepB3	C or H <12 months	49	12-23 m	408	71
HepB3	Card	63	12-23 m	408	71
HepB3	Card or History	67	12-23 m	408	71
HepB3	History	4	12-23 m	408	71
MCV	History	6	12-23 m	408	71
MCV	C or H <12 months	22	12-23 m	408	71
MCV	Card	56	12-23 m	408	71
MCV	Card or History	62	12-23 m	408	71
Pol1	Card or History	78	12-23 m	408	71
Pol1	History	9	12-23 m	408	71

Pol1	C or H <12 months	69	12-23 m	408	71
Pol1	Card	70	12-23 m	408	71
Pol3	History	2	12-23 m	408	71
Pol3	Card	63	12-23 m	408	71
Pol3	Card or History	65	12-23 m	408	71
Pol3	C or H <12 months	50	12-23 m	408	71

## 1997 South Africa Demographic and Health Survey 1998

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	96	12-23 m	973	75
BCG	Card or History	97	12-23 m	973	75
DTP1	C or H <12 months	93	12-23 m	973	75
DTP1	Card or History	93	12-23 m	973	75
DTP3	Card or History	76	12-23 m	973	75
DTP3	C or H <12 months	74	12-23 m	973	75
HepB1	C or H <12 months	88	12-23 m	973	75
HepB1	Card or History	88	12-23 m	973	75
HepB3	Card or History	74	12-23 m	973	75
HepB3	C or H <12 months	72	12-23 m	973	75
MCV	Card or History	82	12-23 m	973	75
MCV	C or H <12 months	72	12-23 m	973	75
Pol1	C or H <12 months	90	12-23 m	973	75
Pol1	Card or History	91	12-23 m	973	75
Pol3	C or H <12 months	70	12-23 m	973	75
Pol3	Card or History	72	12-23 m	973	75

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

[http://www.childinfo.org/immunization\\_countryreports.html](http://www.childinfo.org/immunization_countryreports.html)

[http://www.who.int/immunization\\_monitoring/routine/immunization\\_coverage/en/index4.html](http://www.who.int/immunization_monitoring/routine/immunization_coverage/en/index4.html)

## South Africa

### 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	39
1998	49
1999	59
2000	68
2001	66
2002	62
2003	61
2004	60
2005	59
2006	74
2007	72
2008	75
2009	75

---

<sup>1</sup> 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.