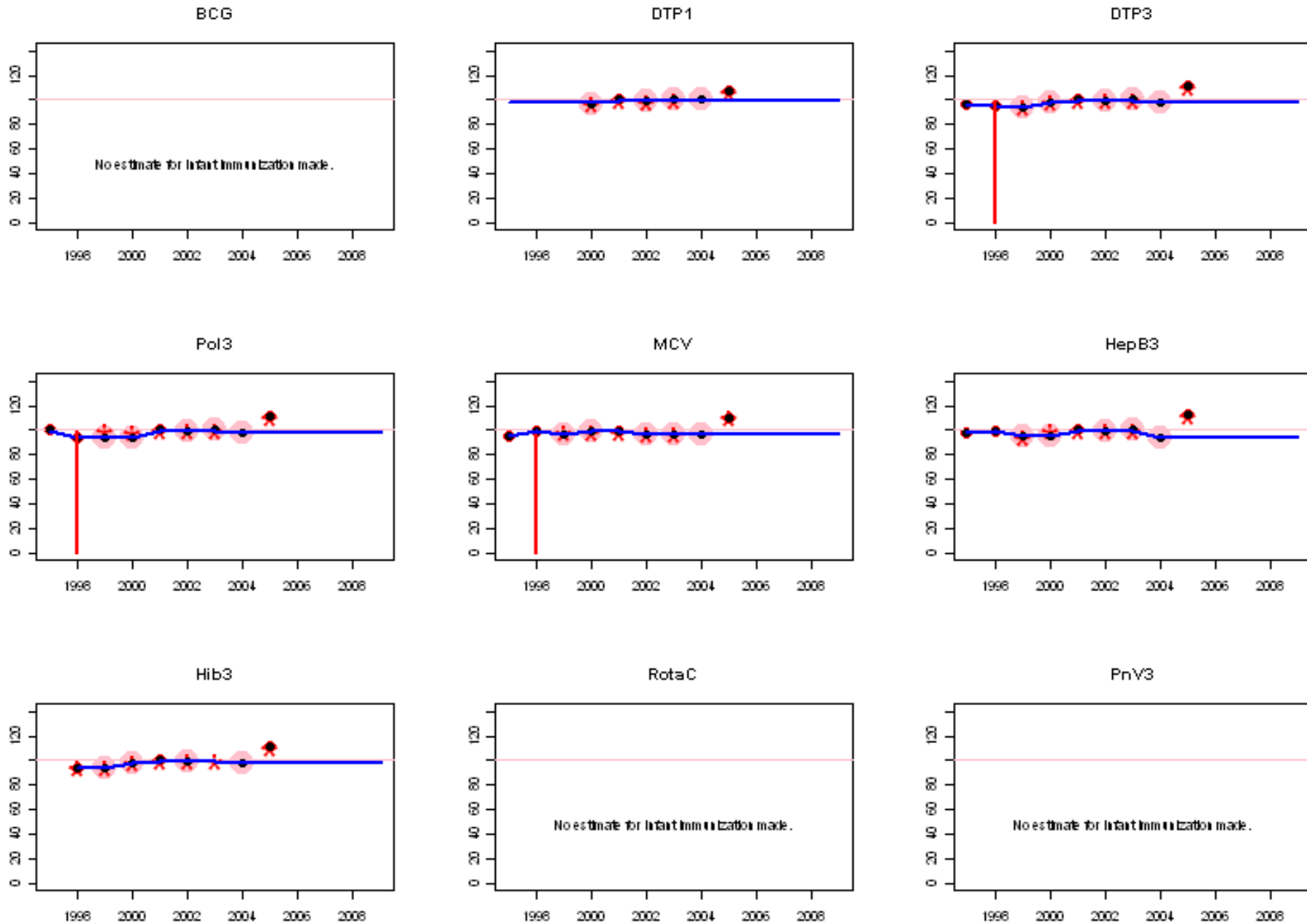
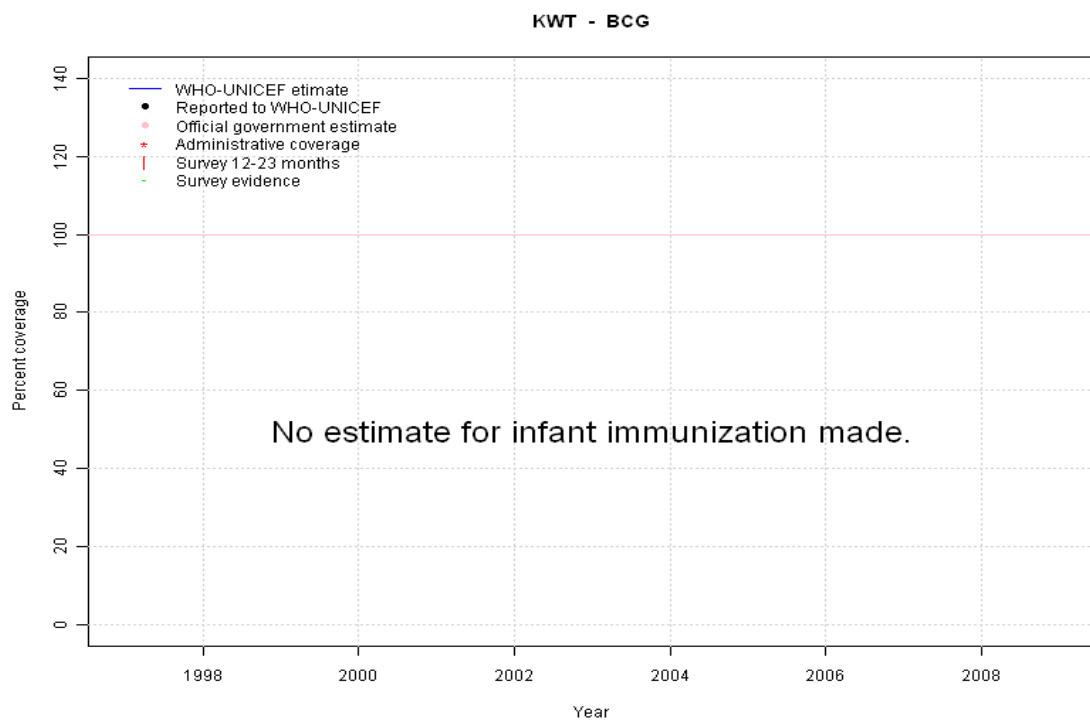


Kuwait: WHO and UNICEF estimates of immunization coverage, 1997 - 2009

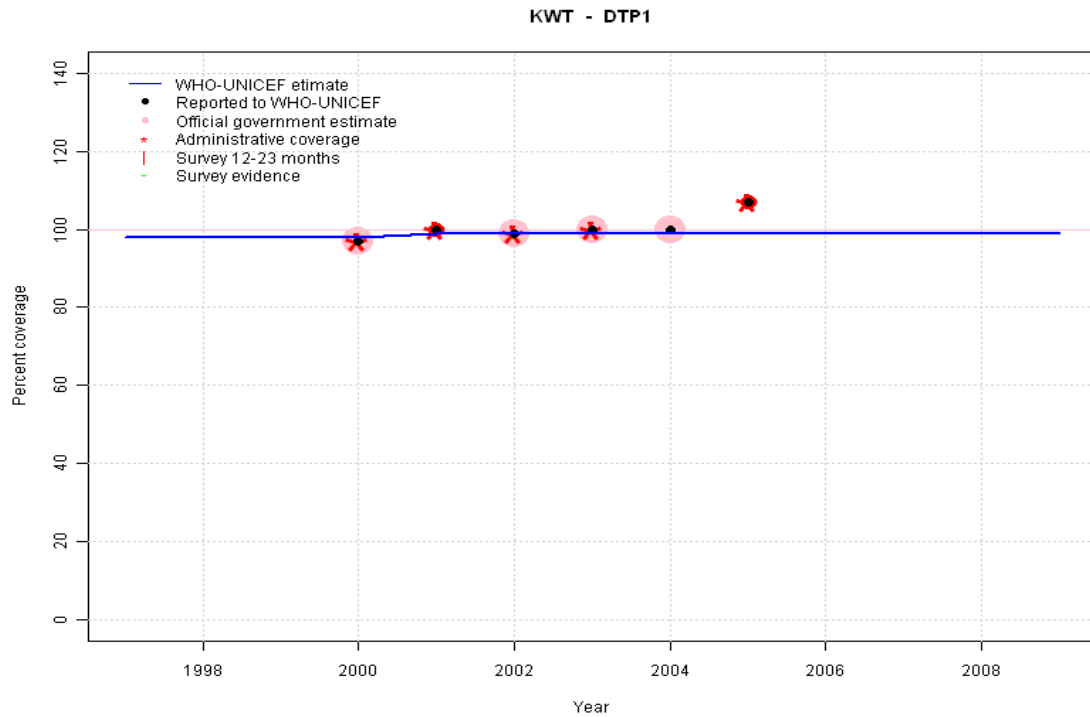


Kuwait - BCG



	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

Kuwait - DTP1



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	98	98	98	98	99	99	99	99	99	99	99	99	99
Reported	NA	NA	NA	97	100	99	100	100	107	NA	NA	NA	NA
Official	NA	NA	NA	97	NA	99	100	100	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	97	100	99	100	NA	107	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Description:

1997: Legacy estimate.

1998: Estimate calibrated to 1997 level (98 percent) and reported coverage (97 percent).

1999: Estimate calibrated to 1997 level (98 percent) and reported coverage (97 percent).

2000: Estimate calibrated to 1997 level (98 percent) and reported coverage (97 percent).

2001: Estimate calibrated to 1997 level (98 percent) and reported coverage (99 percent).

2002: Estimate calibrated to 1997 level (98 percent) and reported coverage (99 percent).

2003: Estimate calibrated to 1997 level (98 percent) and reported coverage (99 percent).

2004: Estimate calibrated to 1997 level (98 percent) and reported coverage (99 percent).

2005: Estimate calibrated to 1997 level (98 percent) and reported coverage (99 percent). 2005 reported data (107 percent) ignored; greater than 100 percent.

2006: Estimate calibrated to 1997 level (98 percent) and reported coverage (99 percent).

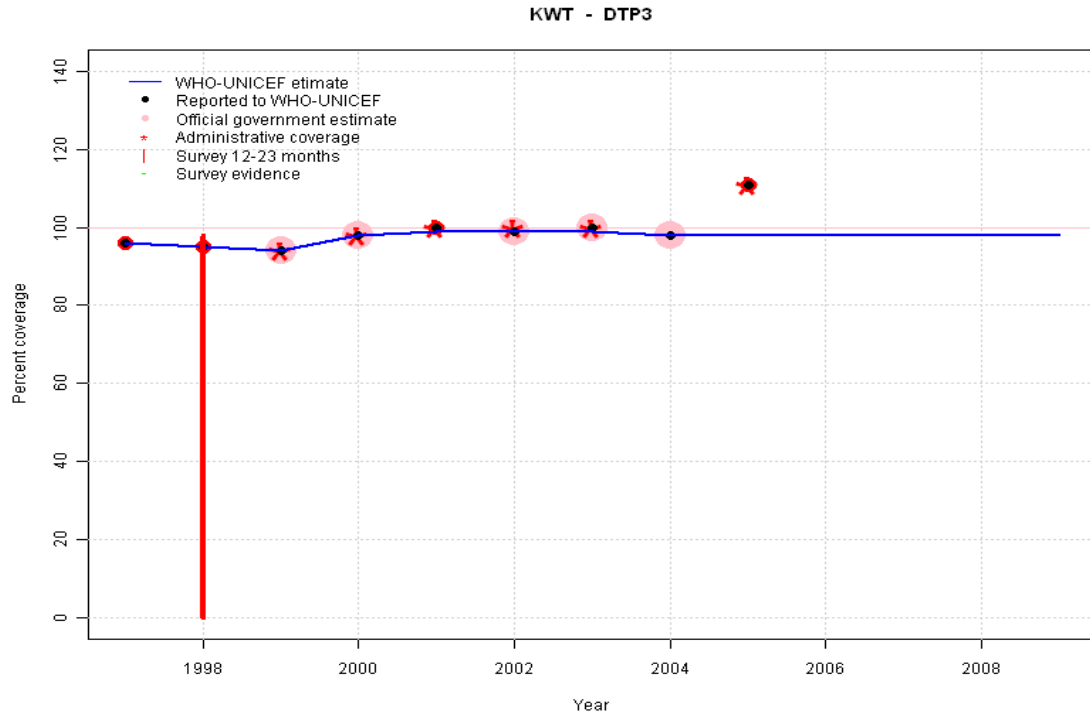
2007: Estimate calibrated to 1997 level (98 percent) and reported coverage (99 percent).

2008: Estimate calibrated to 1997 level (98 percent) and reported coverage (99 percent).

2009: Estimate calibrated to 1997 level (98 percent) and reported coverage (99 percent).

Kuwait - DTP3

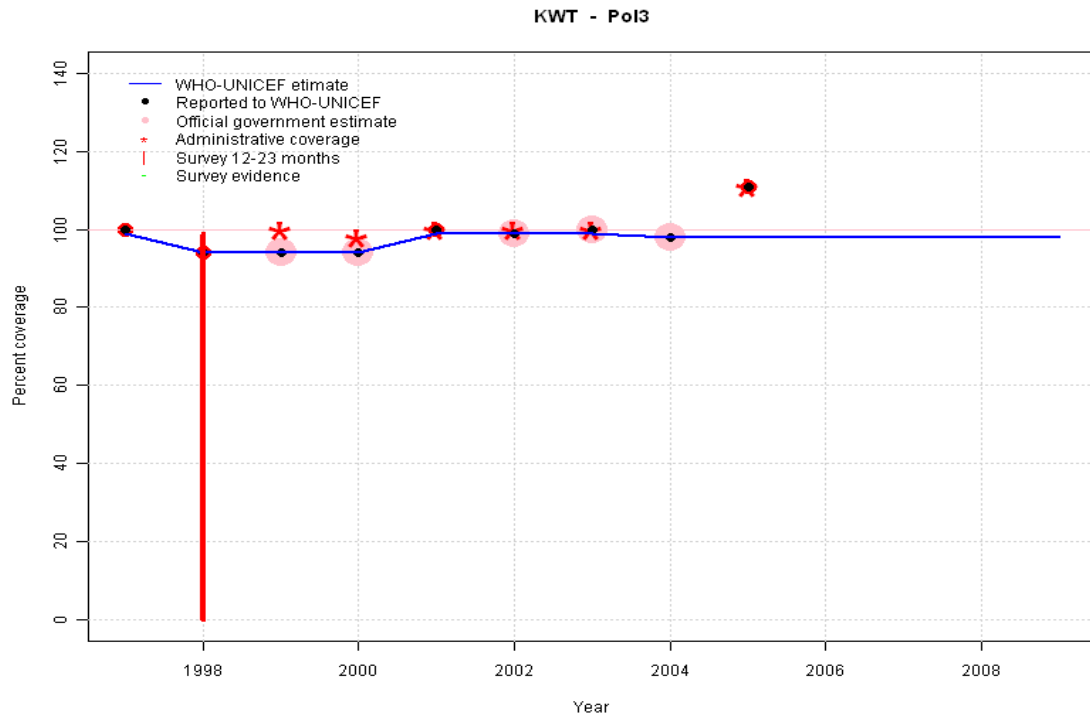
Description:



- 1997: Legacy estimate.
- 1998: Estimate based on reported data. Survey results of 98 percent with sample size 0 ignored; sample size less than 300.
- 1999: Estimate based on reported data.
- 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 trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent. 2005 reported data (111 percent) ignored; greater than 100 percent. 2005 reported data (111 percent) inconsistent with data from other years.
- 2006: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.
- 2007: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.
- 2008: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.
- 2009: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	96	95	94	98	99	99	99	98	98	98	98	98	98
Reported	96	95	94	98	100	99	100	98	111	NA	NA	NA	NA
Official	NA	NA	94	98	NA	99	100	98	NA	NA	NA	NA	NA
Administrative	NA	NA	94	98	100	100	100	NA	111	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Kuwait - Pol3



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	99	94	94	94	99	99	99	98	98	98	98	98	98
Reported	100	94	94	94	100	99	100	98	111	NA	NA	NA	NA
Official	NA	NA	94	94	NA	99	100	98	NA	NA	NA	NA	NA
Administrative	NA	NA	100	98	100	100	100	NA	111	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Description:

1997: Legacy estimate.

1998: Estimate based on reported data. Survey results of 99 percent with sample size 0 ignored; sample size less than 300.

1999: Estimate based on reported data.

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 trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent. 2005 reported data (111 percent) ignored; greater than 100 percent. 2005 reported data (111 percent) inconsistent with data from other years.

2006: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.

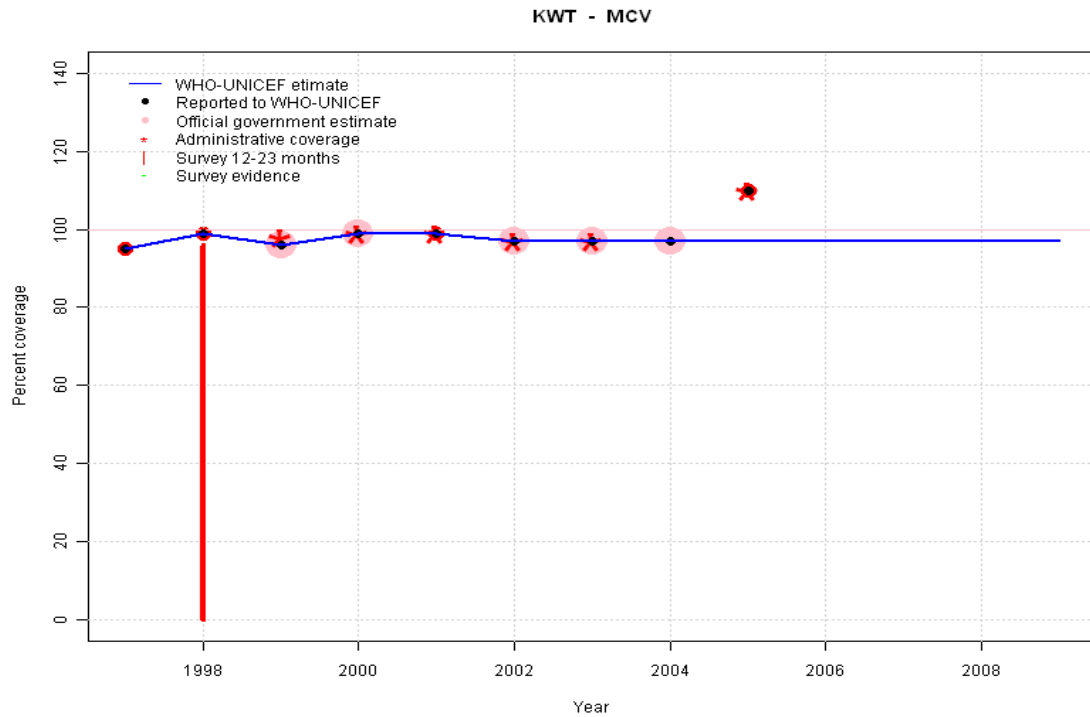
2007: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.

2008: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.

2009: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.

Kuwait - MCV

Description:

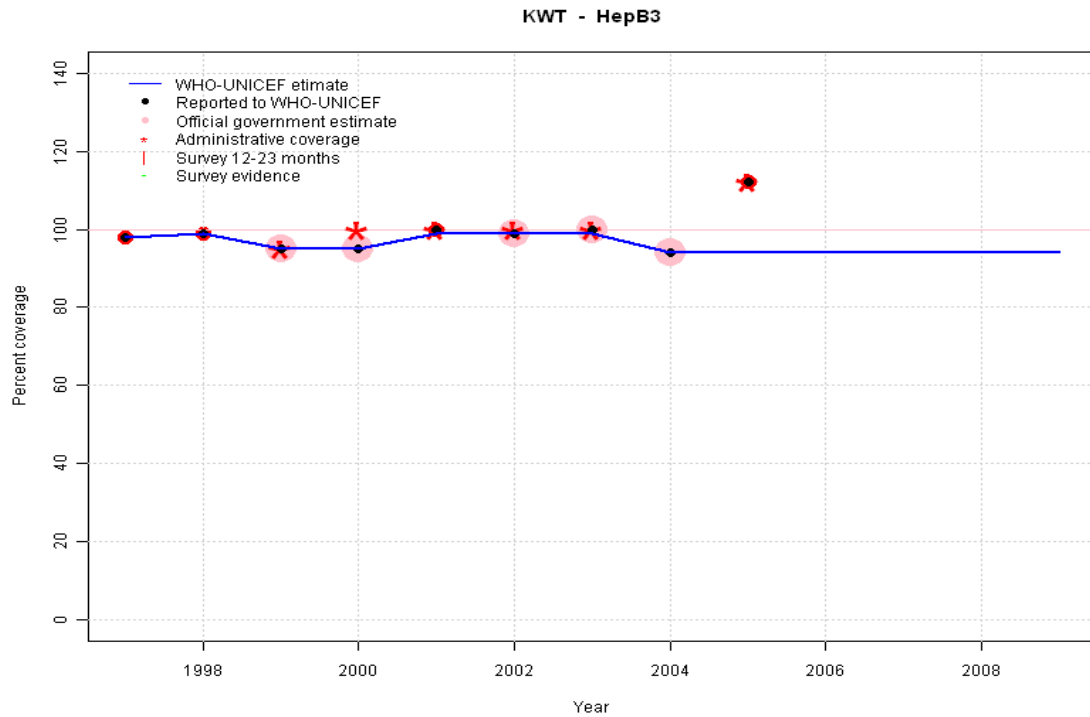


- 1997: Legacy estimate.
- 1998: Estimate based on reported data. Survey results of 96 percent with sample size 0 ignored; sample size less than 300.
- 1999: Estimate based on reported data.
- 2000: Estimate based on reported data.
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data.
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data.
- 2005: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 97 percent. 2005 reported data (110 percent) ignored; greater than 100 percent. 2005 reported data (110 percent) inconsistent with data from other years.
- 2006: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 97 percent.
- 2007: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 97 percent.
- 2008: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 97 percent.
- 2009: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 97 percent.

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

Kuwait - HepB3

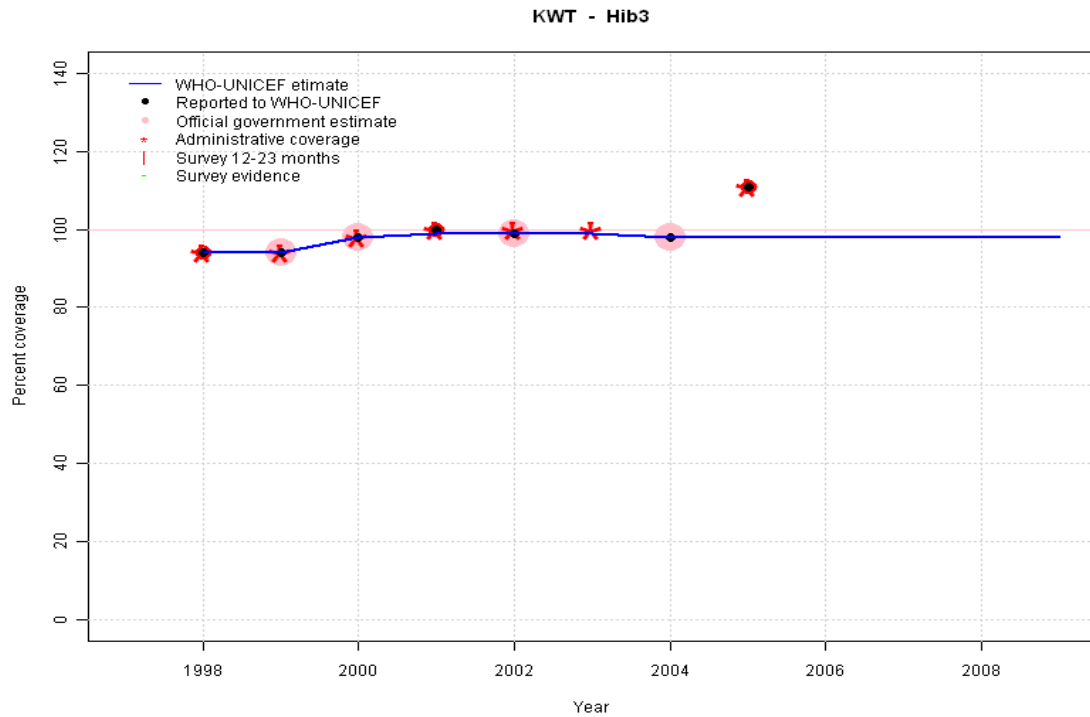
Description:



- 1997: Legacy estimate.
- 1998: Estimate based on reported data.
- 1999: Estimate based on reported data.
- 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 trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 94 percent. 2005 reported data (112 percent) ignored; greater than 100 percent. 2005 reported data (112 percent) inconsistent with data from other years.
- 2006: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 94 percent.
- 2007: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 94 percent.
- 2008: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 94 percent.
- 2009: Estimate based on trend in reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 94 percent.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	98	99	95	95	99	99	99	94	94	94	94	94	94
Reported	98	99	95	95	100	99	100	94	112	NA	NA	NA	NA
Official	NA	NA	95	95	NA	99	100	94	NA	NA	NA	NA	NA
Administrative	NA	NA	95	100	100	100	100	NA	112	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Kuwait - Hib3

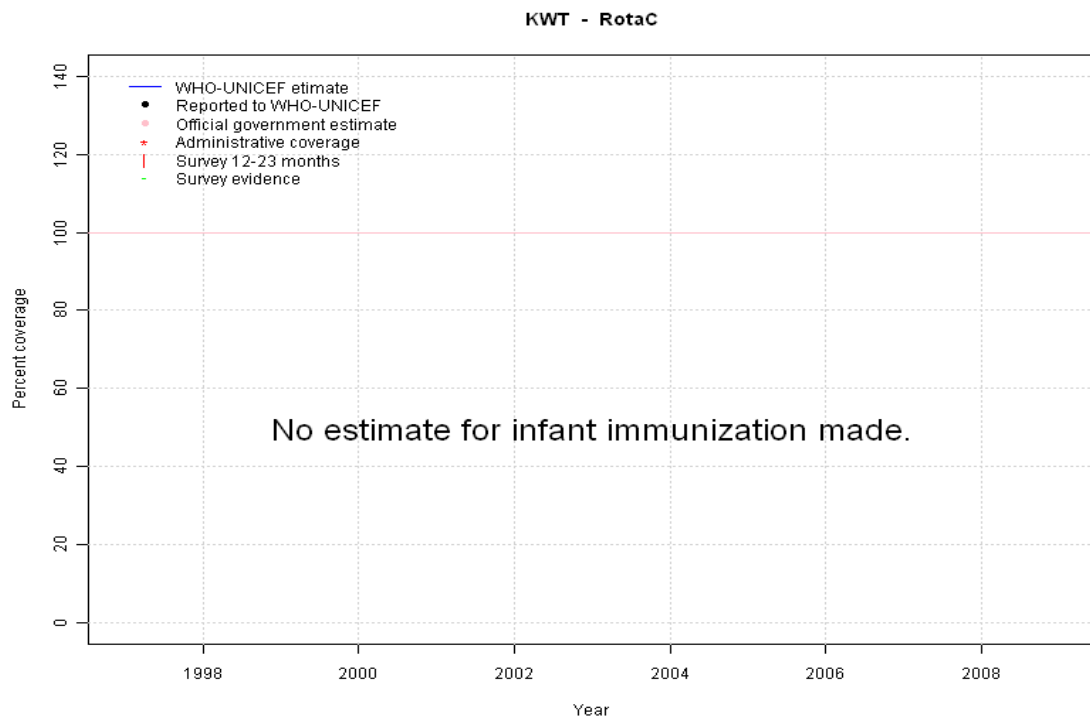


Description:

- 1998: Estimate based on reported data. Hib introduced in 1998 Vaccine presentation is DTB-Hib.
- 1999: Estimate based on reported data.
- 2000: Estimate based on reported data.
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data.
- 2003: Estimate based on reported data. Missing or ignored reported value estimated by interpolation between reported values of 99 percent in 2002 and 98 percent in 2004.
- 2004: Estimate based on reported data.
- 2005: Estimate based on reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent. 2005 reported data (111 percent) ignored; greater than 100 percent. 2005 reported data (111 percent) inconsistent with data from other years.
- 2006: Estimate based on reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.
- 2007: Estimate based on reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.
- 2008: Estimate based on reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.
- 2009: Estimate based on reported data. Missing or ignored reported value estimated by extrapolation from 2004 reported value of 98 percent.

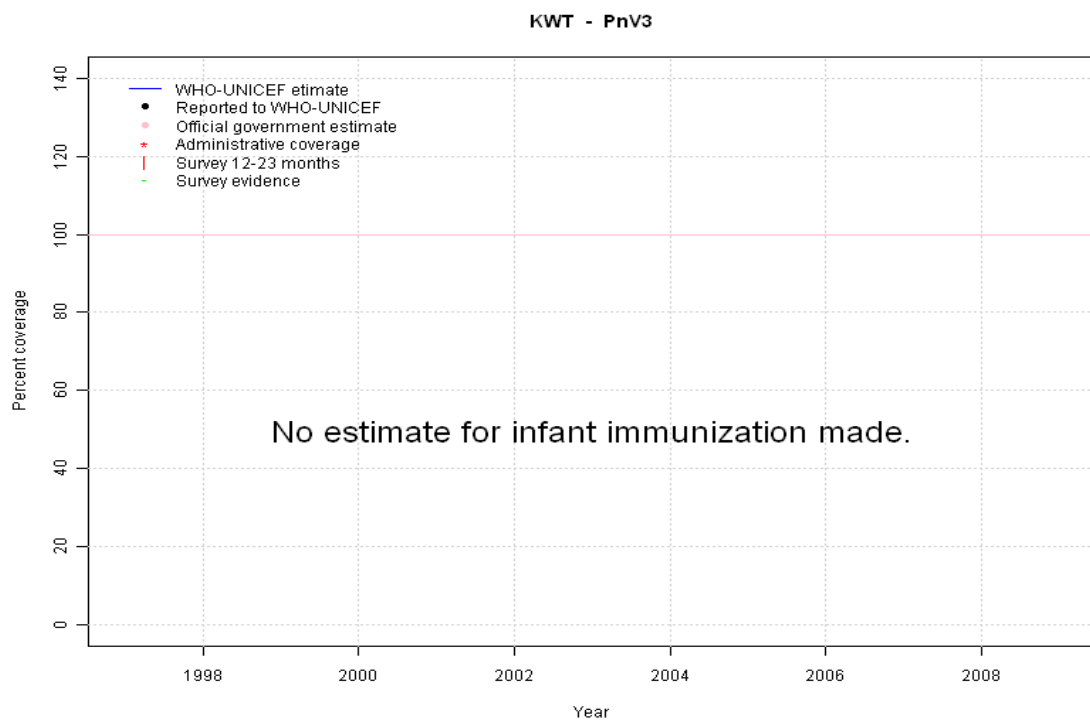
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	94	94	98	99	99	99	98	98	98	98	98	98
Reported	NA	94	94	98	100	99	NA	98	111	NA	NA	NA	NA
Official	NA	NA	94	98	NA	99	NA	98	NA	NA	NA	NA	NA
Administrative	NA	94	94	98	100	100	100	NA	111	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Kuwait - 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

Kuwait - 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

Kuwait - survey details

1998 Vaccine Assessment in State of Kuwait 1999, documentation
not available

DTP3	Card or History	98	12-23 m	0	73
HepB3	Card or History	98	18-24 m	0	73
MCV	Card or History	96	12-23 m	0	73
Pol3	Card or History	99	12-23 m	0	73

Vaccine Confirmation method Coverage Age cohort Sample Cards seen

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

Kuwait

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	32
1998	24
1999	73
2000	77
2001	78
2002	79
2003	80
2004	81
2005	81
2006	82
2007	83
2008	84
2009	84

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.