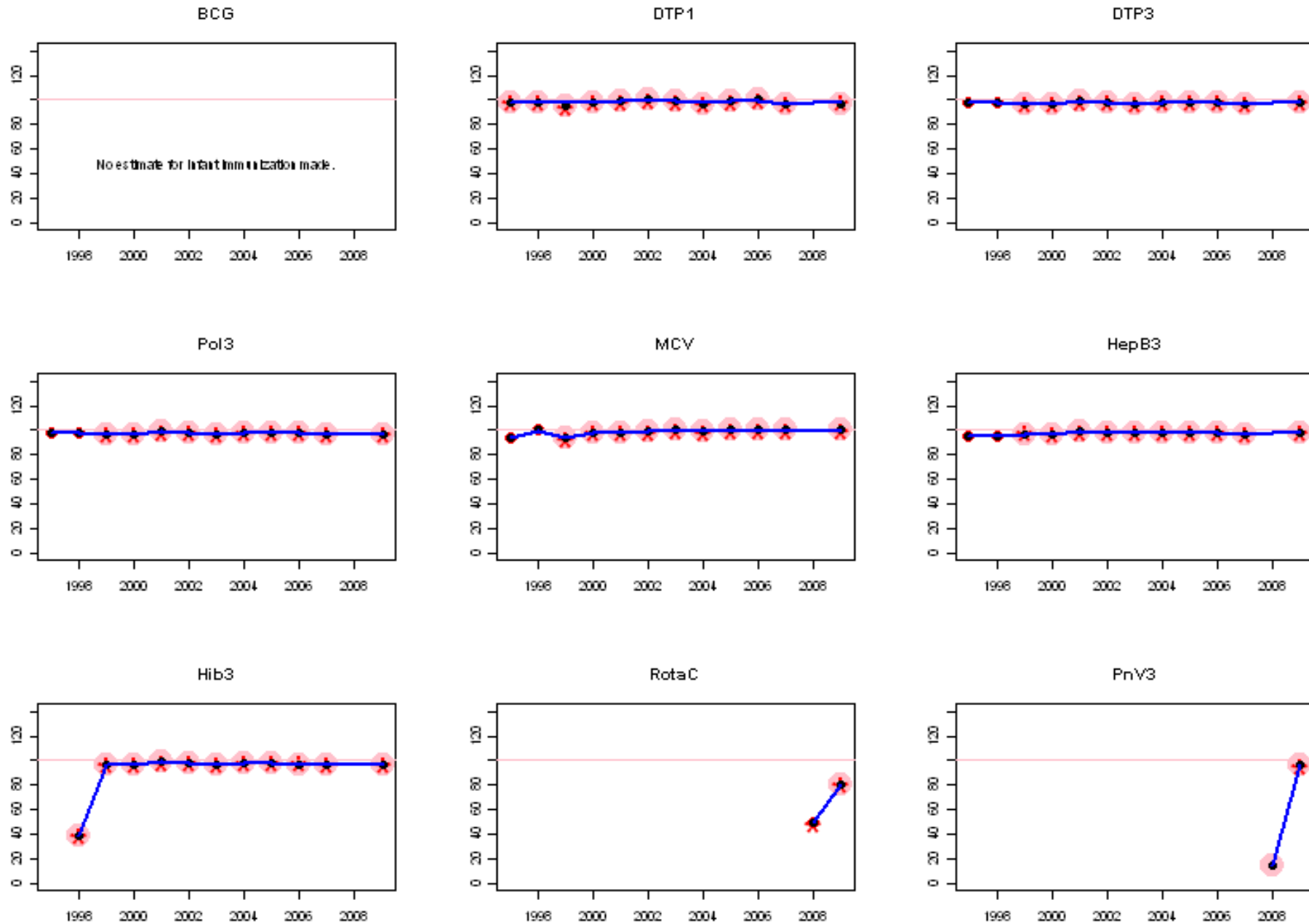
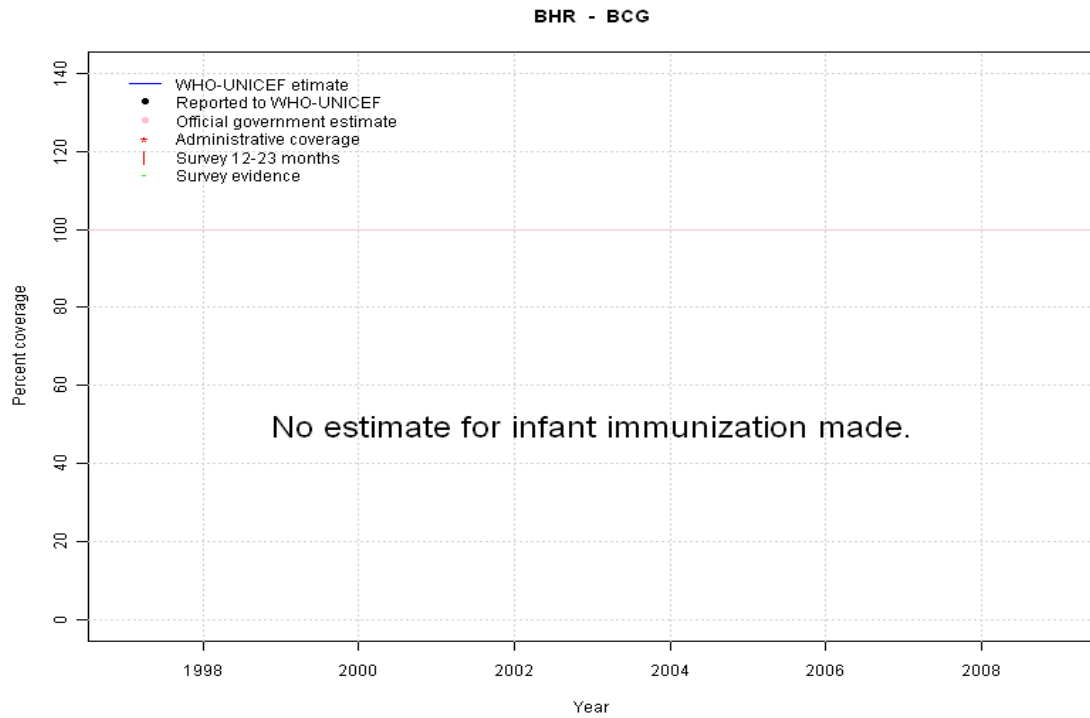


Bahrain: WHO and UNICEF estimates of immunization coverage, 1997 - 2009



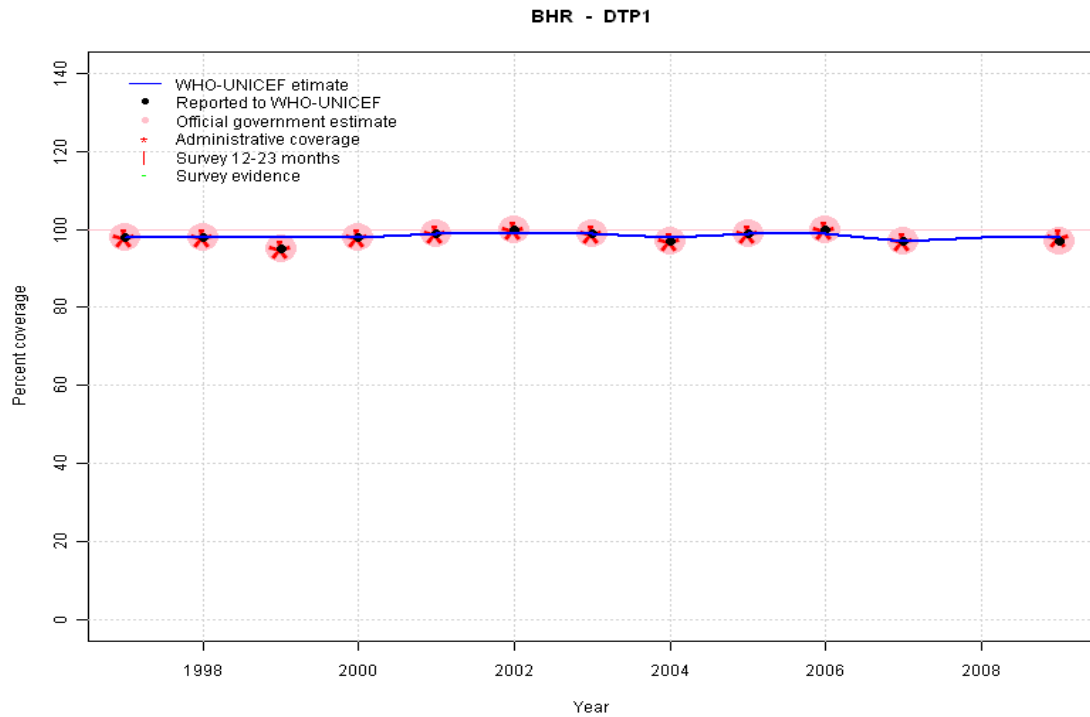
# Bahrain - BCG



	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

# Bahrain - DTP1

## Description:

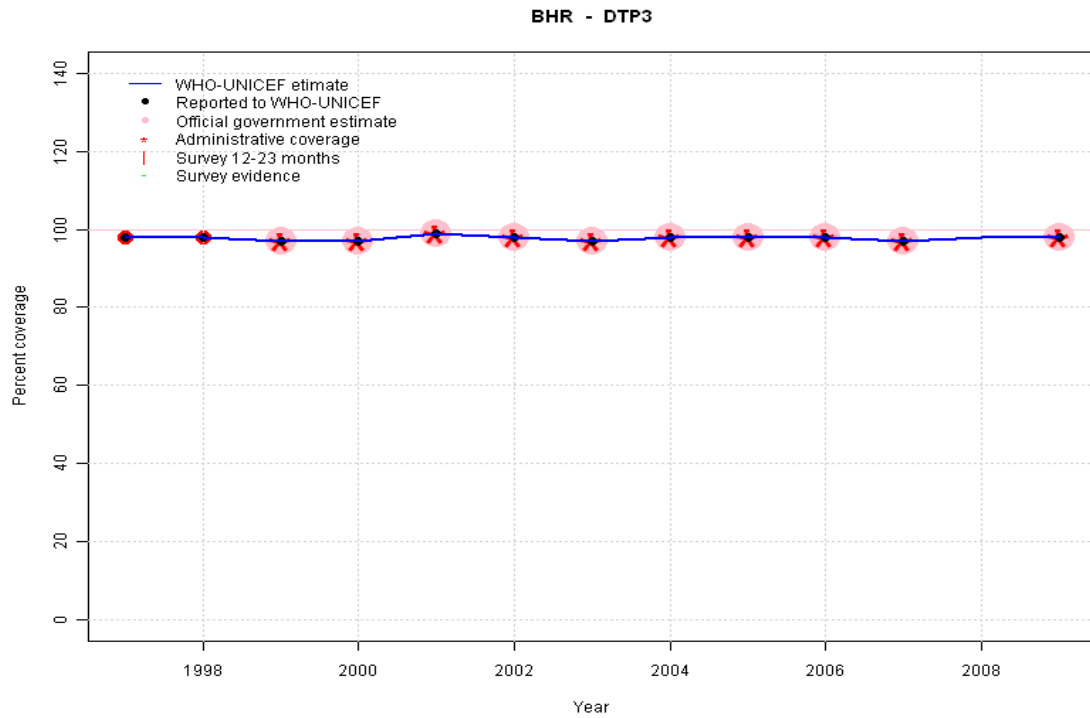


- 1997: Legacy estimate.
- 1998: Estimate based on reported data.
- 1999: Estimated DTP3 greater than estimated DTP1; DTP1 estimate based on the relationship between DTP1 and DTP3 from 282 surveys.
- 2000: Estimate based on reported data.
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data.
- 2003: Estimate based on reported data.
- 2004: Estimated DTP3 greater than estimated DTP1; DTP1 estimate based on the relationship between DTP1 and DTP3 from 282 surveys.
- 2005: Estimate based on reported data.
- 2006: Estimate based on reported data.
- 2007: Estimate based on reported data.
- 2008: Estimated DTP3 greater than estimated DTP1; DTP1 estimate based on the relationship between DTP1 and DTP3 from 282 surveys.
- 2009: Estimated DTP3 greater than estimated DTP1; DTP1 estimate based on the relationship between DTP1 and DTP3 from 282 surveys.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	98	98	98	98	99	99	99	98	99	99	97	98	98
Reported	98	98	95	98	99	100	99	97	99	100	97	NA	97
Official	98	98	95	98	99	100	99	97	99	100	97	NA	97
Administrative	98	98	95	98	99	100	99	97	99	100	97	NA	98
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

# Bahrain - DTP3

## Description:

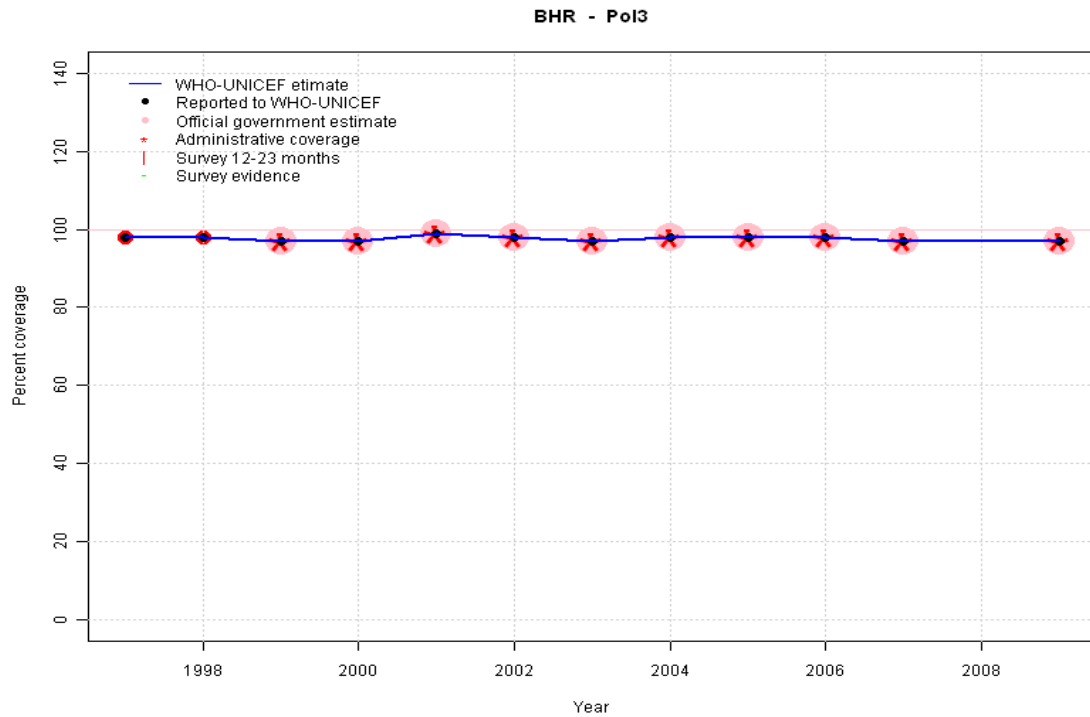


- 1997: Legacy estimate.
- 1998: Estimate based on reported data.
- 1999: Estimate based on reported data.
- 2000: Estimate based on reported data.
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data.
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data.
- 2005: Estimate based on reported data.
- 2006: Estimate based on reported data.
- 2007: Estimate based on reported data.
- 2008: Estimate based on trend in reported data. Missing or ignored reported value estimated by interpolation between reported values of 97 percent in 2007 and 98 percent in 2009.
- 2009: Estimate based on reported data.

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

# Bahrain - Pol3

## Description:

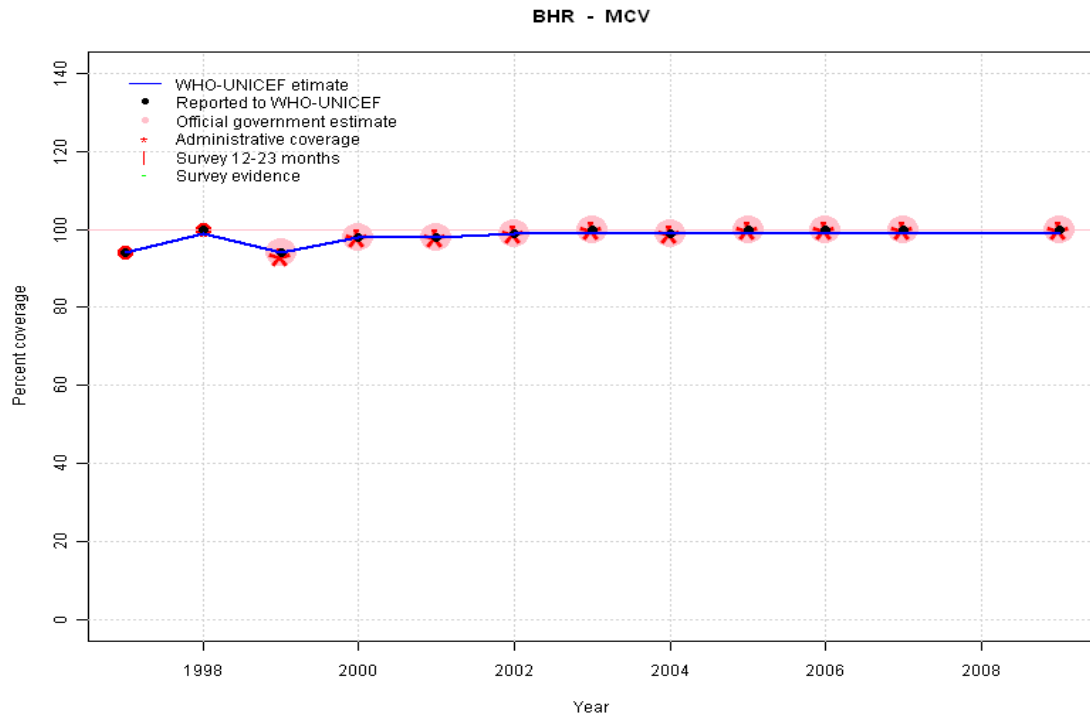


- 1997: Legacy estimate.
- 1998: Estimate based on reported data.
- 1999: Estimate based on reported data.
- 2000: Estimate based on reported data.
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data.
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data.
- 2005: Estimate based on reported data.
- 2006: Estimate based on reported data.
- 2007: Estimate based on reported data.
- 2008: Estimate based on trend in reported data. Missing or ignored reported value estimated by interpolation between reported values of 97 percent in 2007 and 97 percent in 2009.
- 2009: Estimate based on reported data.

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

# Bahrain - MCV

## Description:

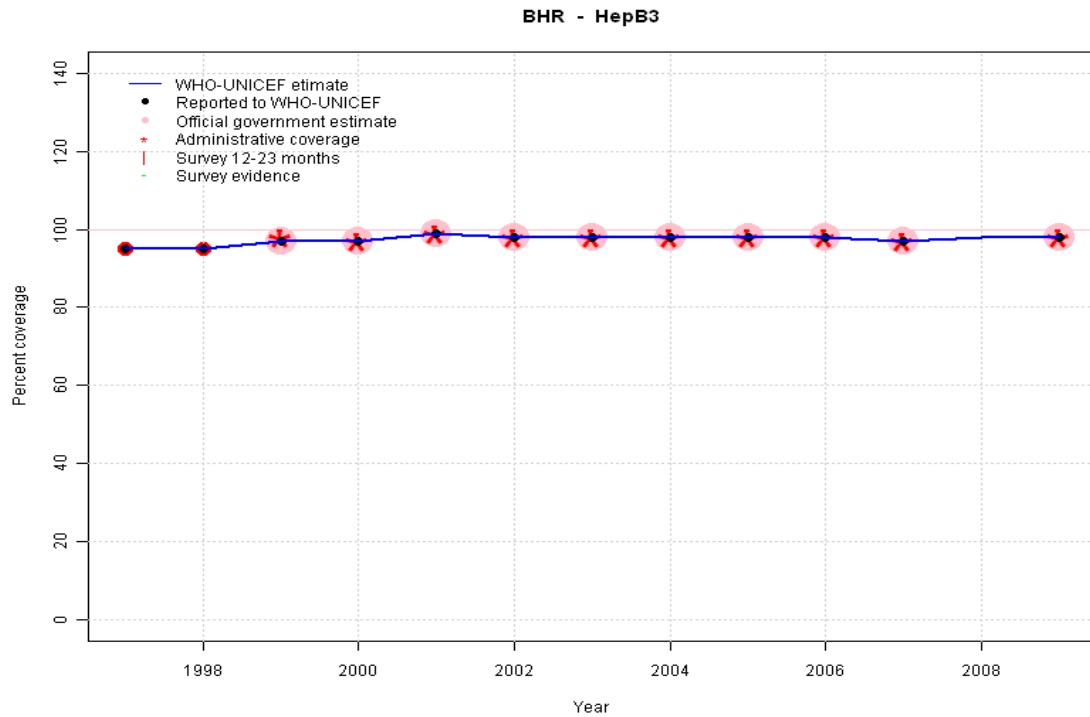


- 1997: Legacy estimate.
- 1998: Estimate based on reported data.
- 1999: Estimate based on reported data.
- 2000: Estimate based on reported data.
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data.
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data.
- 2005: Estimate based on reported data.
- 2006: Estimate based on reported data.
- 2007: Estimate based on reported data.
- 2008: Estimate based on trend in reported data. Missing or ignored reported value estimated by interpolation between reported values of 100 percent in 2007 and 100 percent in 2009.
- 2009: Estimate based on reported data.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	94	99	94	98	98	99	99	99	99	99	99	99	99
Reported	94	100	94	98	98	99	100	99	100	100	100	NA	100
Official	NA	NA	94	98	98	99	100	99	100	100	100	NA	100
Administrative	NA	NA	93	98	98	99	100	99	100	100	100	NA	100
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

# Bahrain - HepB3

## Description:

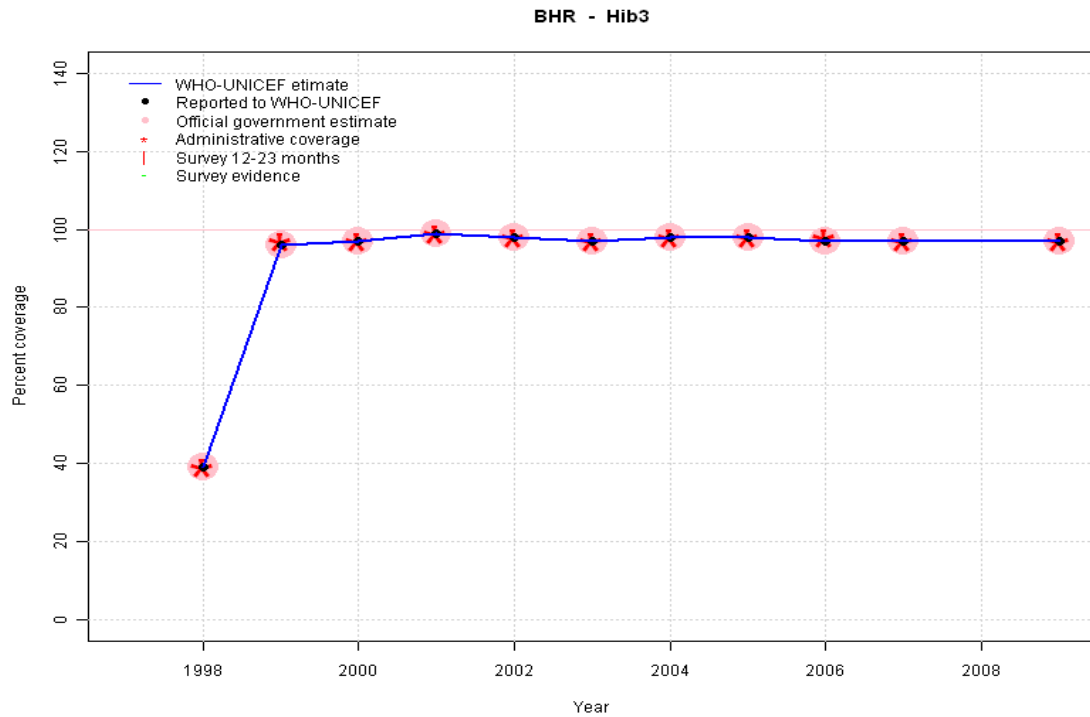


- 1997: Legacy estimate.
- 1998: Estimate based on reported data.
- 1999: Estimate based on reported data.
- 2000: Estimate based on reported data.
- 2001: Estimate based on reported data.
- 2002: Estimate based on reported data.
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data.
- 2005: Estimate based on reported data.
- 2006: Estimate based on reported data.
- 2007: Estimate based on reported data.
- 2008: Estimate based on trend in reported data. Missing or ignored reported value estimated by interpolation between reported values of 97 percent in 2007 and 98 percent in 2009.
- 2009: Estimate based on reported data.

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

# Bahrain - Hib3

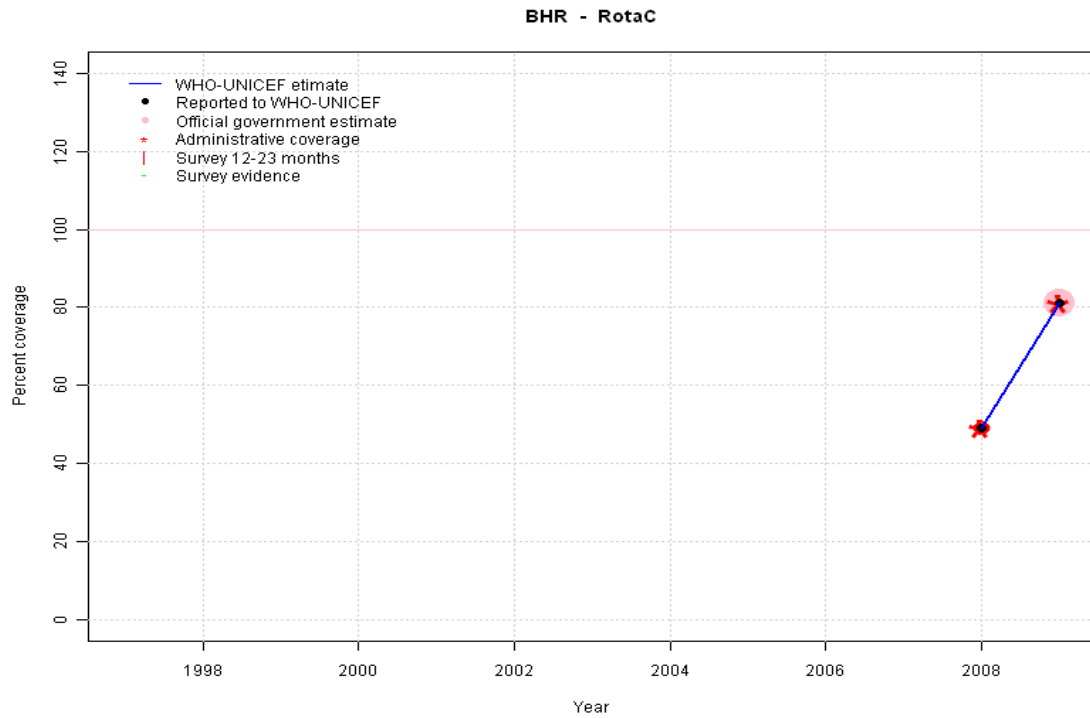
## Description:



- 1998: Estimate based on reported data. Hib introduced in 1998
- 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 reported data.
- 2006: Estimate based on reported data.
- 2007: Estimate based on reported data.
- 2008: Estimate based on reported data. Missing or ignored reported value estimated by interpolation between reported values of 97 percent in 2007 and 97 percent in 2009.
- 2009: Estimate based on reported data.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	39	96	97	99	98	97	98	98	97	97	97	97
Reported	NA	39	96	97	99	98	97	98	98	97	97	NA	97
Official	NA	39	96	97	99	98	97	98	98	97	97	NA	97
Administrative	NA	39	97	97	99	98	97	98	98	98	97	NA	97
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

# Bahrain - RotaC



## Description:

2008: Estimate based on reported data. Rota introduced in 2008

2009: Estimate based on reported data. Rota introduced in 2008 reporting started in 2009, Rapid increase to routine levels of other vaccines following introduction.

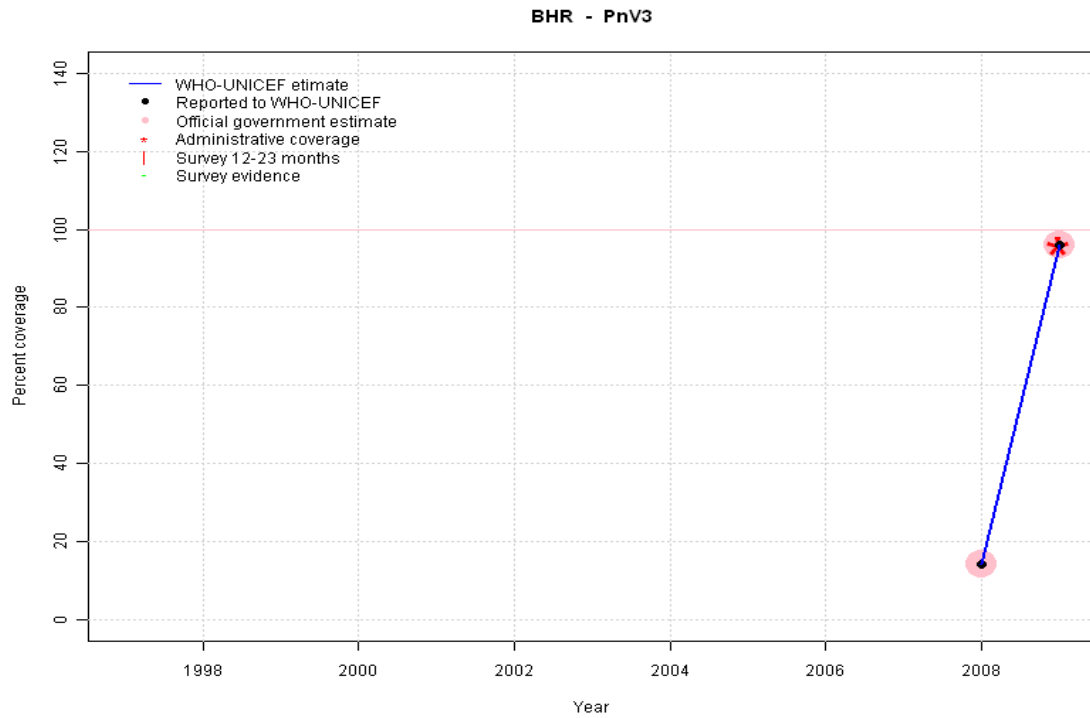
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	81
Reported	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	81
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	81
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	81
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

# Bahrain - PnV3

## Description:

2008: Estimate based on reported data. PCV introduced in 2008

2009: Estimate based on reported data. PCV introduced in 2008 reporting started in 2009, Rapid increase to routine levels of other vaccines following introduction.



	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	14	96
Reported	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	96
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	96
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	96
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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)

## Bahrain

### 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.

From 1997 onward, reported PAB estimates have been used.

Year	PAB coverage estimate (%)
1997	72
1998	80
1999	76
2000	84
2001	86
2002	94
2003	91
2004	97
2005	97
2006	93
2007	96
2008	99
2009	94

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<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.