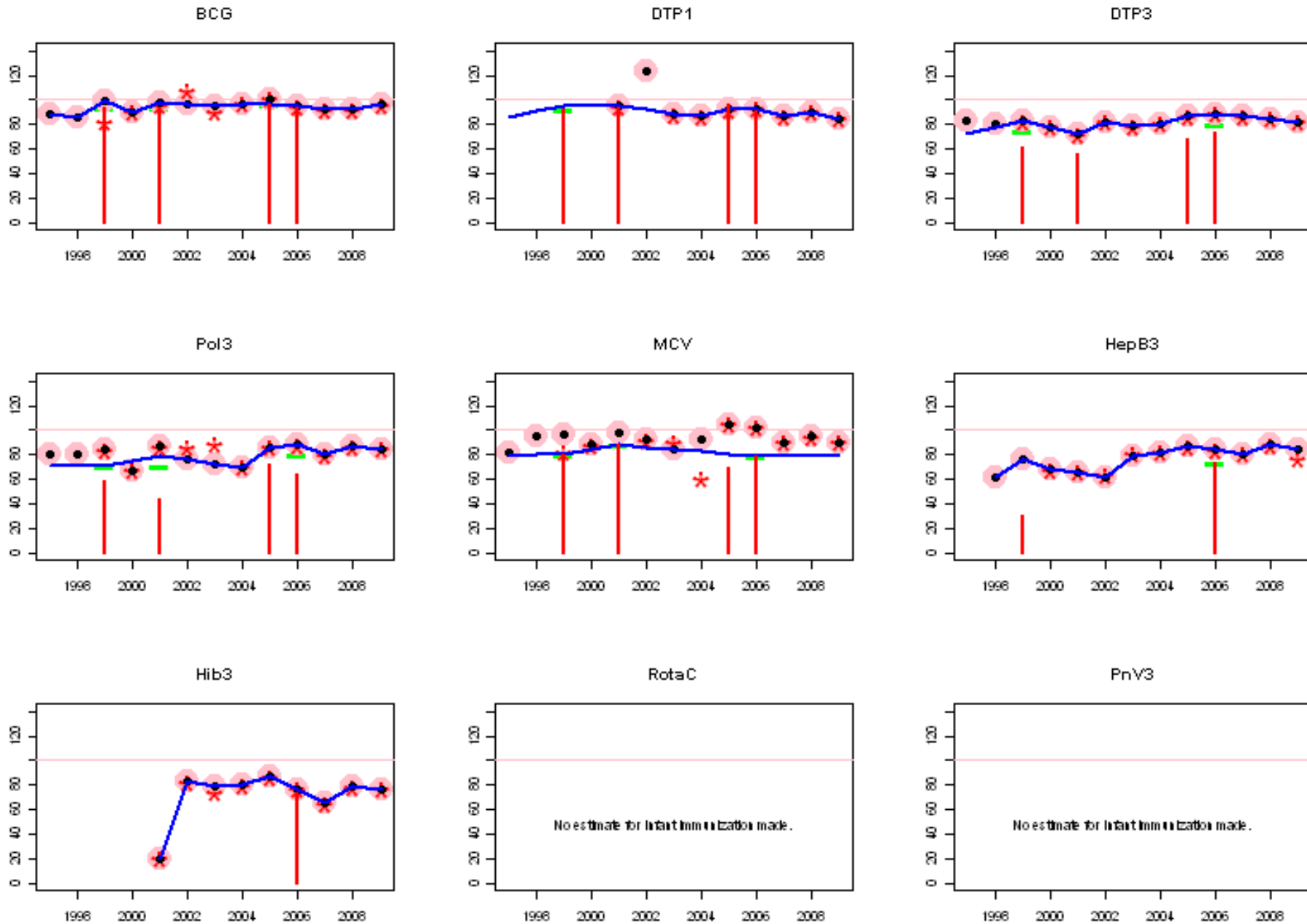
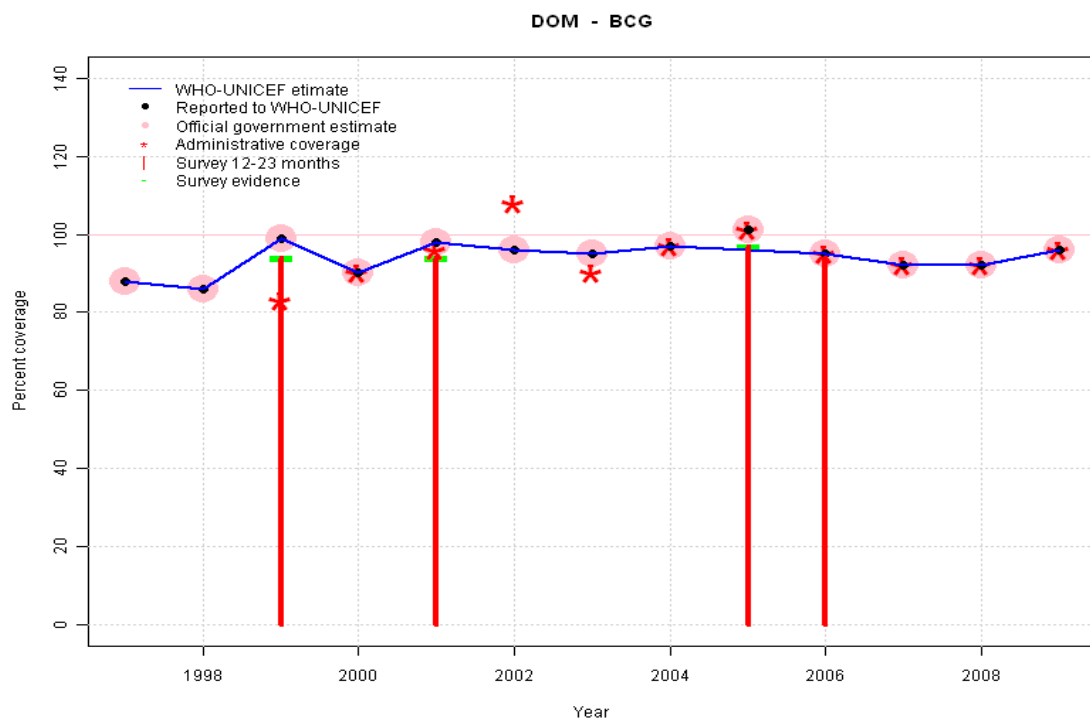


Dominican Republic: WHO and UNICEF estimates of immunization coverage, 1997 - 2009



# Dominican Republic - BCG

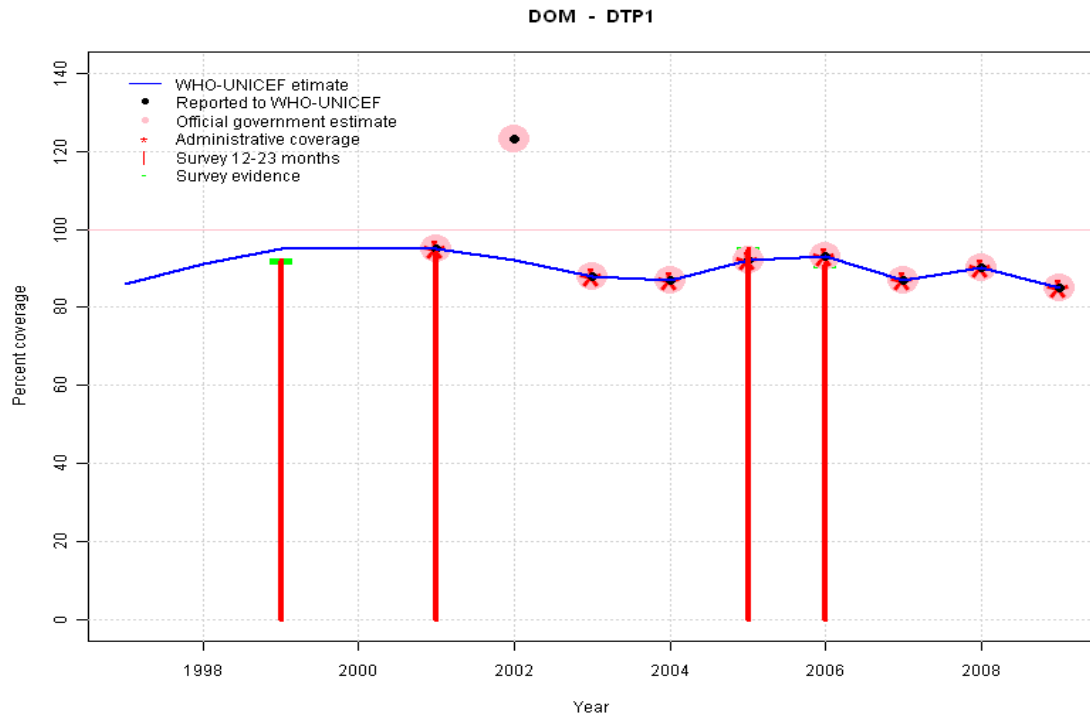
## Description:



- 1997: Legacy estimate.
- 1998: Estimate based on reported data.
- 1999: Estimate based on reported data (99 percent) confirmed by survey (94 percent).
- 2000: Estimate based on reported data.
- 2001: Estimate based on reported data (98 percent) confirmed by survey (94 percent).
- 2002: Estimate based on reported data.
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data.
- 2005: Estimate based on interpolated value between reported data. Survey (97 percent) confirms trend in reported data. 2005 reported data (101 percent) ignored; greater than 100 percent.
- 2006: Estimate based on reported data (95 percent) confirmed by survey (94 percent).
- 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	88	86	99	90	98	96	95	97	96	95	92	92	96
Reported	88	86	99	90	98	96	95	97	101	95	92	92	96
Official	88	86	99	90	98	96	95	97	101	95	92	92	96
Administrative	NA	NA	83	90	96	108	90	97	101	95	92	92	96
Survey	NA	NA	94	NA	94	NA	NA	NA	97	94	NA	NA	NA

# Dominican Republic - DTP1

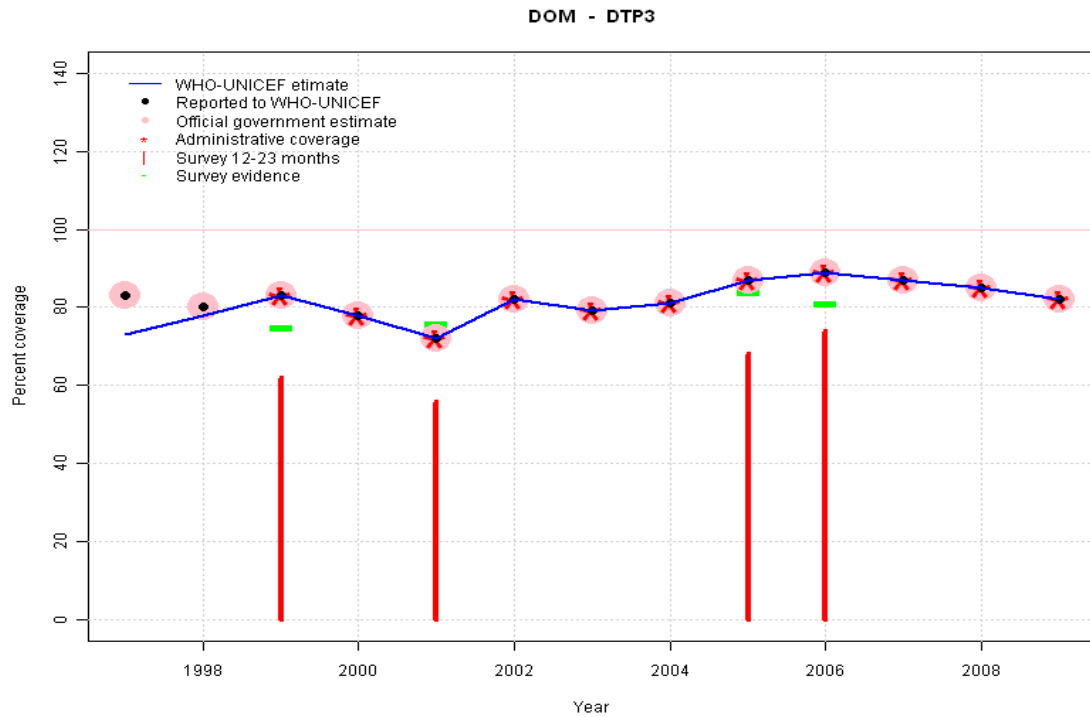


## Description:

- 1997: Legacy estimate.  
 1998: Estimate interpolated between 1997 and 1999 estimates.  
 1999: Estimate based on interpolated value between reported data. Survey (92 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 95 percent.  
 2001: Estimate based on reported data (95 percent) confirmed by survey (94 percent).  
 2002: Estimate based on trend in reported data. Missing or ignored reported value estimated by interpolation between reported values of 95 percent in 2001 and 88 percent in 2003. 2002 reported data (123 percent) ignored; greater than 100 percent. 2002 reported data (123 percent) inconsistent with data from other years.  
 2003: Estimate based on reported data.  
 2004: Estimate based on reported data.  
 2005: Estimate based on reported data (92 percent) confirmed by survey (95 percent).  
 2006: Estimate based on reported data (93 percent) confirmed by survey (91 percent).  
 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	86	91	95	95	95	92	88	87	92	93	87	90	85
Reported	NA	NA	NA	NA	95	123	88	87	92	93	87	90	85
Official	NA	NA	NA	NA	95	123	88	87	92	93	87	90	85
Administrative	NA	NA	NA	NA	95	NA	88	87	92	93	87	90	85
Survey	NA	NA	92	NA	94	NA	NA	NA	95	91	NA	NA	NA

# Dominican Republic - DTP3



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	73	78	83	78	72	82	79	81	87	89	87	85	82
Reported	83	80	83	78	72	82	79	81	87	89	87	85	82
Official	83	80	83	78	72	82	79	81	87	89	87	85	82
Administrative	NA	NA	83	78	72	82	79	81	87	89	87	85	82
Survey	NA	NA	75	NA	76	NA	NA	NA	84	81	NA	NA	NA

## Description:

1997: Legacy estimate.

1998: Estimate interpolated between 1997 and 1999 estimates.

1999: Estimate based on reported data (83 percent) confirmed by survey (75 percent). Survey results (62 percent) adjusted for recall bias to 75 percent based on first dose card or history coverage (92 percent) and documented drop-out between first (60 percent) and third (49 percent) doses.

2000: Estimate based on reported data.

2001: Estimate based on reported data (72 percent) confirmed by survey (76 percent). Survey results (56 percent) adjusted for recall bias to 76 percent based on first dose card or history coverage (94 percent) and documented drop-out between first (48 percent) and third (39 percent) doses.

2002: Estimate based on reported data.

2003: Estimate based on reported data.

2004: Estimate based on reported data.

2005: Estimate based on reported data (87 percent) confirmed by survey (84 percent). Survey results (68 percent) adjusted for recall bias to 84 percent based on first dose card or history coverage (95 percent) and documented drop-out between first (68 percent) and third (60 percent) doses.

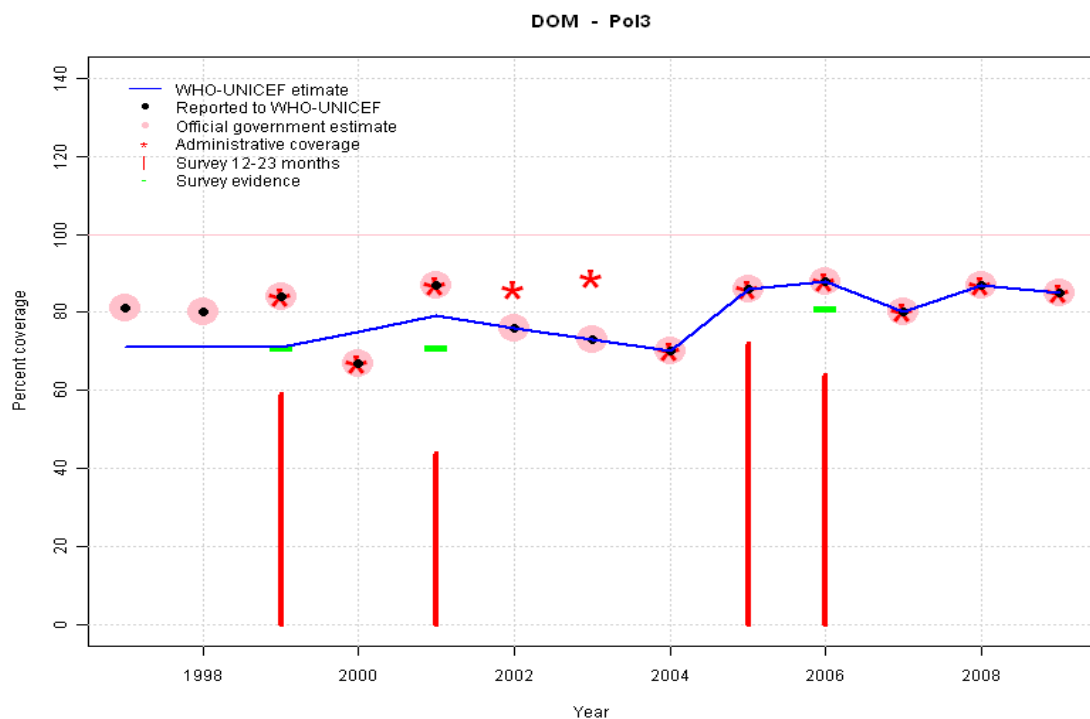
2006: Estimate based on reported data (89 percent) confirmed by survey (81 percent). Survey results (74 percent) adjusted for recall bias to 81 percent based on first dose card or history coverage (91 percent) and documented drop-out between first (61 percent) and third (54 percent) doses.

2007: Estimate based on reported data.

2008: Estimate based on reported data.

2009: Estimate based on reported data.

# Dominican Republic - Pol3



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	71	71	71	75	79	76	73	70	86	88	80	87	85
Reported	81	80	84	67	87	76	73	70	86	88	80	87	85
Official	81	80	84	67	87	76	73	70	86	88	80	87	85
Administrative	NA	NA	84	67	87	86	89	70	86	88	80	87	85
Survey	NA	NA	71	NA	71	NA	NA	NA	85	81	NA	NA	NA

## Description:

1997: Legacy estimate.

1998: Estimate interpolated between 1997 and 1999 estimates.

1999: Estimate based on survey results. Reported data (84 percent) not consistent with survey results (71 percent). Survey results (59 percent) adjusted for recall bias to 71 percent based on first dose card or history coverage (91 percent) and documented drop-out between first (60 percent) and third (47 percent) doses.

2000: Estimate interpolated between 1999 and 2001 estimates. 2000 reported data (67 percent) inconsistent with data from other years.

2001: Estimate based on interpolated value between reported data. Survey (71 percent) confirms trend in reported data. Survey results (44 percent) adjusted for recall bias to 71 percent based on first dose card or history coverage (92 percent) and documented drop-out between first (49 percent) and third (38 percent) doses. 2001 reported data (87 percent) inconsistent with data from other years.

2002: Estimate based on reported data.

2003: Estimate based on reported data.

2004: Estimate based on reported data.

2005: Estimate based on reported data (86 percent) confirmed by survey (85 percent). Survey results (72 percent) adjusted for recall bias to 85 percent based on first dose card or history coverage (96 percent) and documented drop-out between first (68 percent) and third (60 percent) doses.

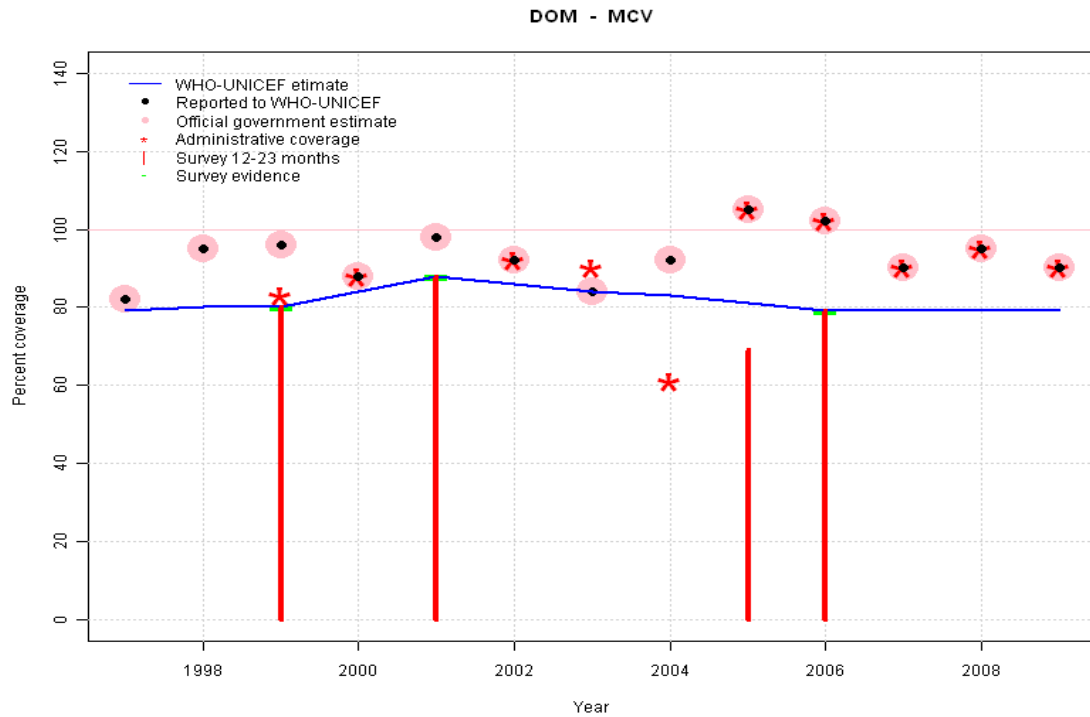
2006: Estimate based on reported data (88 percent) confirmed by survey (81 percent). Survey results (64 percent) adjusted for recall bias to 81 percent based on first dose card or history coverage (90 percent) and documented drop-out between first (62 percent) and third (56 percent) doses.

2007: Estimate based on reported data.

2008: Estimate based on reported data.

2009: Estimate based on reported data.

# Dominican Republic - MCV



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	79	80	80	84	88	86	84	83	81	79	79	79	79
Reported	82	95	96	88	98	92	84	92	105	102	90	95	90
Official	82	95	96	88	98	92	84	92	105	102	90	95	90
Administrative	NA	NA	83	88	NA	92	90	61	105	102	90	95	90
Survey	NA	NA	80	NA	88	NA	NA	NA	NA	79	NA	NA	NA

## Description:

1997: Legacy estimate.

1998: Estimate based on working group decision to interpolated between 1997 and 1999. Fluctuating and inconsistent data suggest poor reporting.

1999: Estimate based on survey results. Reported data (96 percent) not consistent with survey results (80 percent).

2000: Estimate based on working group decision to interpolated between 1999 and 2001. Fluctuating and inconsistent data suggest poor reporting.

2001: Estimate is based on survey results.

2002: Estimate based on working group decision to interpolated between 2001 and 2006. Fluctuating and inconsistent data suggest poor reporting.

2003: Estimate based on working group decision to interpolated between 2001 and 2006. Fluctuating and inconsistent data suggest poor reporting.

2004: Estimate based on working group decision to interpolated between 2001 and 2006. Fluctuating and inconsistent data suggest poor reporting.

2005: Estimate based on working group decision to interpolated between 2001 and 2006. Fluctuating and inconsistent data suggest poor reporting. Survey results of 69 percent ignored by working group. 2005 survey results are for children 12-23 months of age and underestimate immunization recommended at 12 months. 2005 reported data (105 percent) ignored; greater than 100 percent.

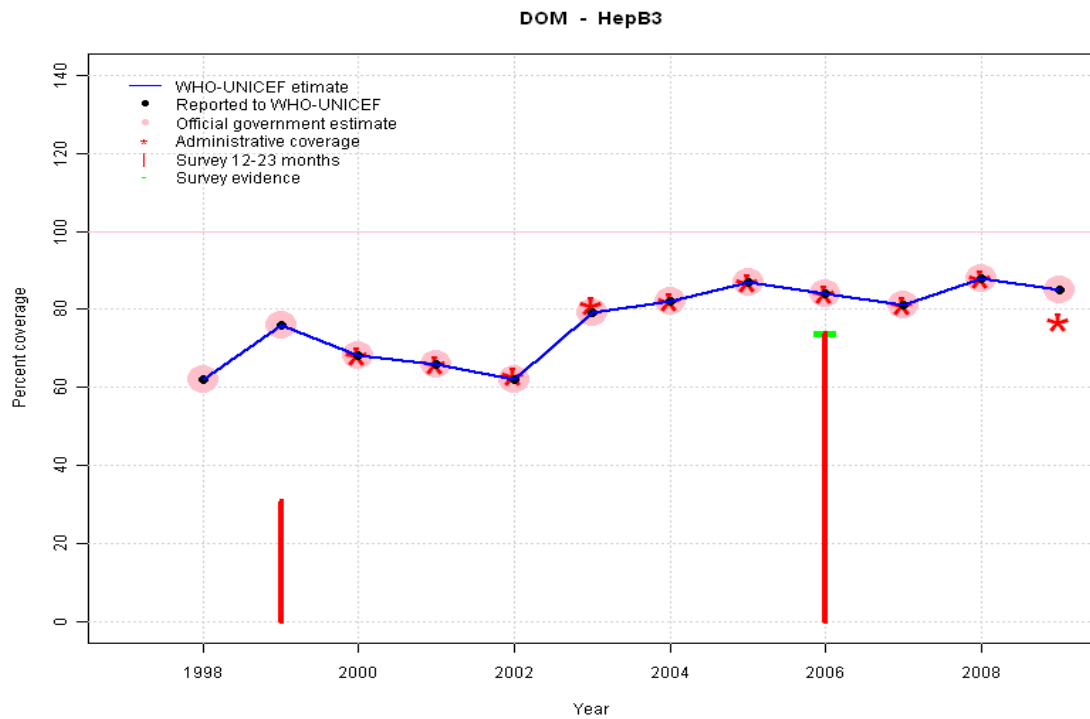
2006: Estimate based on survey results. Reported data (91 percent) not consistent with survey results (79 percent). 2006 reported data (102 percent) ignored; greater than 100 percent.

2007: Estimate extrapolated from 2006 level (79 percent).

2008: Estimate extrapolated from 2006 level (79 percent).

2009: Estimate extrapolated from 2006 level (79 percent).

# Dominican Republic - HepB3

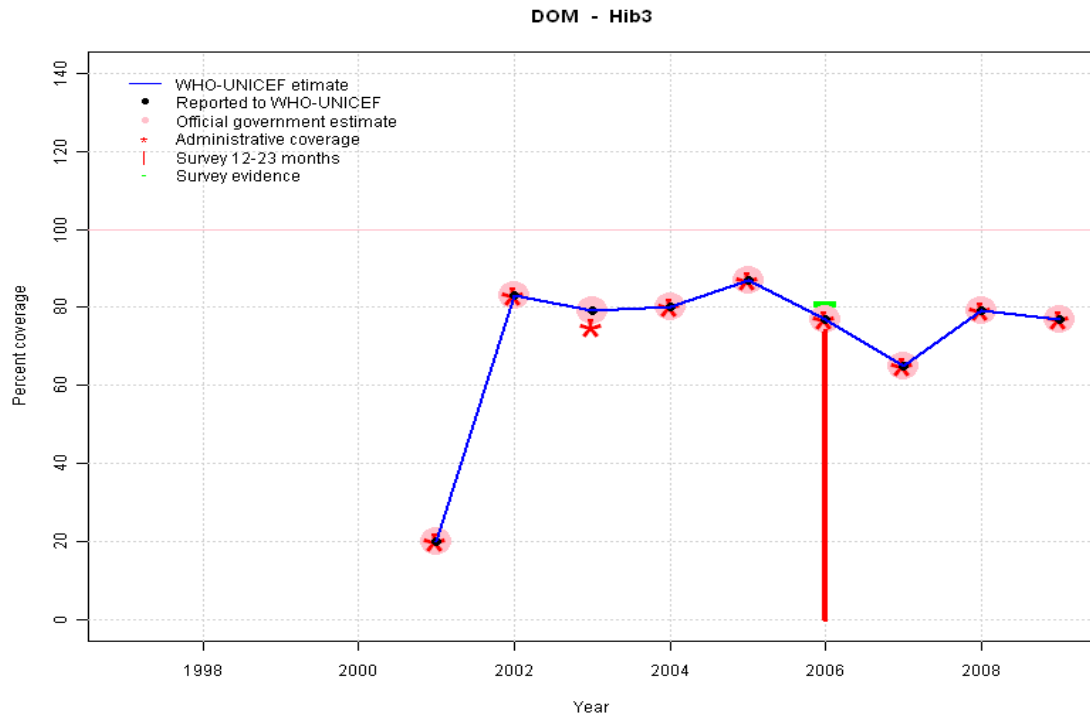


## Description:

- 1998: Estimate based on trend in reported data. HepB introduced in 1994. Reporting started in 1998.
- 1999: Estimate based on trend in reported data. Survey results of 31 percent ignored by working group.
- 2000: Estimate based on trend in reported data.
- 2001: Estimate based on trend in reported data.
- 2002: Estimate based on trend in reported data.
- 2003: Estimate based on trend in reported data.
- 2004: Estimate based on trend in reported data.
- 2005: Estimate based on trend in reported data.
- 2006: Estimate based on reported data (84 percent) confirmed by survey (74 percent).
- 2007: Estimate based on reported data. Decline attributed to three months stock out of DTP-HepB-Hib vaccine. Pentavalent vaccine replaced with monovalent HepB vaccine.
- 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	62	76	68	66	62	79	82	87	84	81	88	85
Reported	NA	62	76	68	66	62	79	82	87	84	81	88	85
Official	NA	62	76	68	66	62	79	82	87	84	81	88	85
Administrative	NA	NA	NA	68	66	63	81	82	87	84	81	88	77
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	74	NA	NA	NA

# Dominican Republic - Hib3

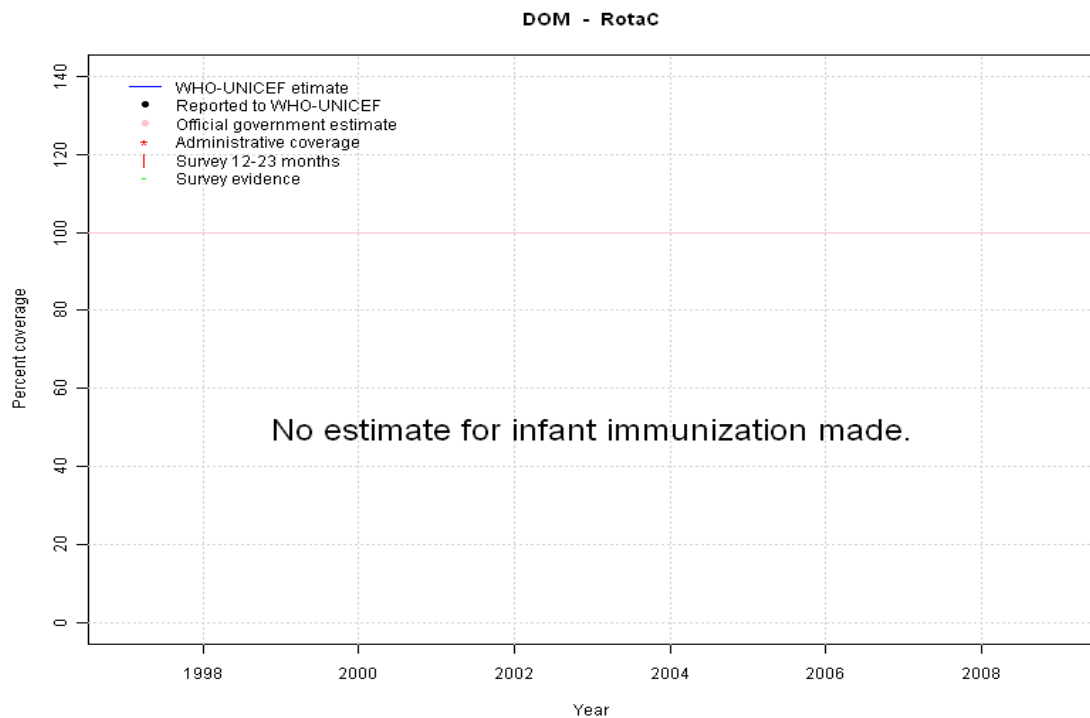


## Description:

- 2001: Estimate based on trend in reported data. Hib partially introduced in 2001 nationally in 2002 reporting started in 2001 Vaccine presentation is DTP-HepB-Hib.
- 2002: Estimate based on trend in reported data.
- 2003: Estimate based on trend in reported data.
- 2004: Estimate based on trend in reported data.
- 2005: Estimate based on trend in reported data.
- 2006: Estimate based on reported data (77 percent) confirmed by survey (81 percent). Survey results (74 percent) adjusted for recall bias to 81 percent based on first dose card or history coverage (91 percent) and documented drop-out between first (61 percent) and third (54 percent) doses.
- 2007: Estimate based on reported data. Decline attributed to three months stock out of DTP-HepB-Hib vaccine. Pentavalent vaccine replaced with DTP.
- 2008: Estimate is based on the reported data.
- 2009: Estimate based on reported data.

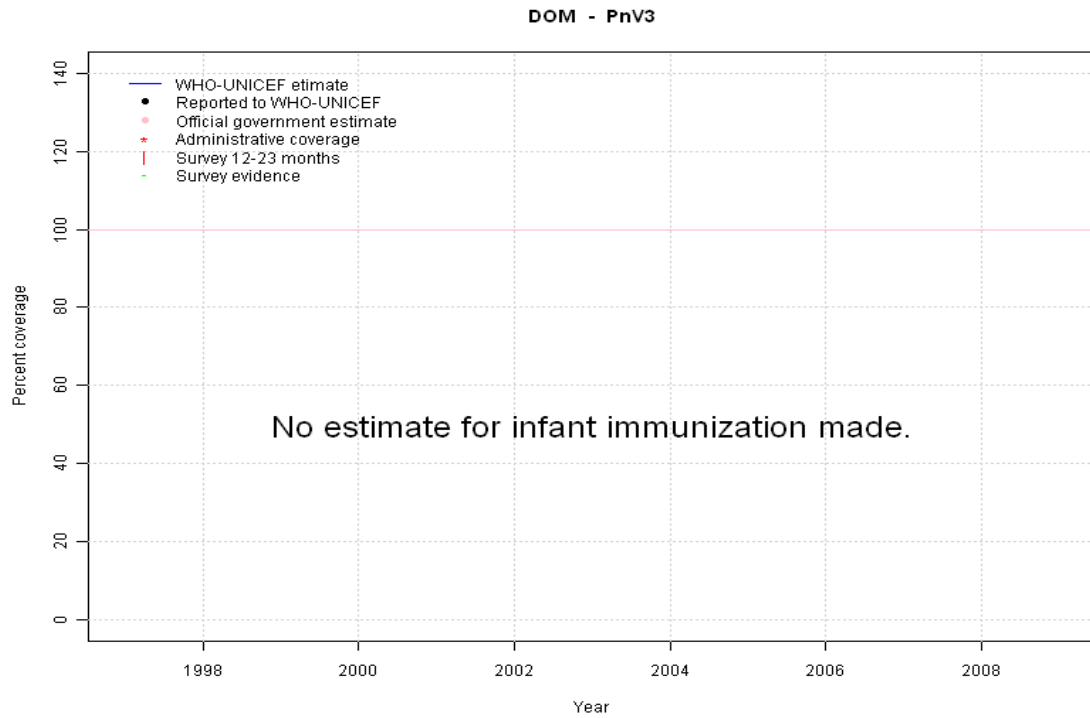
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	NA	20	83	79	80	87	77	65	79	77
Reported	NA	NA	NA	NA	20	83	79	80	87	77	65	79	77
Official	NA	NA	NA	NA	20	83	79	80	87	77	65	79	77
Administrative	NA	NA	NA	NA	20	83	75	80	87	77	65	79	77
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	81	NA	NA	NA

# Dominican Republic - 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

# Dominican Republic - 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

# Dominican Republic - survey details

2006 República Dominicana Encuesta Demográfica y de Salud  
2007

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	94	18-29 m	2120	62
BCG	Card	62	18-29 m	2120	62
BCG	Card or History	94	18-29 m	2120	62
BCG	History	32	18-29 m	2120	62
DTP1	History	30	18-29 m	2120	62
DTP1	C or H <12 months	90	18-29 m	2120	62
DTP1	Card	61	18-29 m	2120	62
DTP1	Card or History	91	18-29 m	2120	62
DTP3	History	20	18-29 m	2120	62
DTP3	Card or History	74	18-29 m	2120	62
DTP3	C or H <12 months	73	18-29 m	2120	62
DTP3	Card	54	18-29 m	2120	62
HepB1	History	30	18-29 m	2120	62
HepB1	C or H <12 months	90	18-29 m	2120	62
HepB1	Card	61	18-29 m	2120	62
HepB1	Card or History	91	18-29 m	2120	62
HepB3	History	20	18-29 m	2120	62
HepB3	Card	54	18-29 m	2120	62
HepB3	Card or History	74	18-29 m	2120	62
HepB3	C or H <12 months	73	18-29 m	2120	62
Hib1	Card	61	18-29 m	2120	62
Hib1	Card or History	91	18-29 m	2120	62
Hib1	History	30	18-29 m	2120	62
Hib1	C or H <12 months	90	18-29 m	2120	62
Hib3	C or H <12 months	73	18-29 m	2120	62
Hib3	Card	54	18-29 m	2120	62
Hib3	Card or History	74	18-29 m	2120	62
Hib3	History	20	18-29 m	2120	62
MCV	History	27	18-29 m	2120	62
MCV	C or H <12 months	74	18-29 m	2120	62
MCV	Card	52	18-29 m	2120	62
MCV	Card or History	79	18-29 m	2120	62
Pol1	History	29	18-29 m	2120	62
Pol1	Card or History	90	18-29 m	2120	62
Pol1	C or H <12 months	90	18-29 m	2120	62

Pol1	Card	62	18-29 m	2120	62
Pol3	C or H <12 months	62	18-29 m	2120	62
Pol3	Card	56	18-29 m	2120	62
Pol3	Card or History	64	18-29 m	2120	62
Pol3	History	8	18-29 m	2120	62

2005 República Dominicana, Encuesta Nacional de Hogares de  
Propósitos Múltiples ENHOGAR 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	96	12-23 m	756	58
BCG	Card	68	12-23 m	756	58
BCG	Card or History	97	12-23 m	756	58
BCG	History	29	12-23 m	756	58
DTP1	History	27	12-23 m	756	58
DTP1	Card or History	95	12-23 m	756	58
DTP1	Card	68	12-23 m	756	58
DTP1	C or H <12 months	90	12-23 m	756	58
DTP3	History	8	12-23 m	756	58
DTP3	Card or History	68	12-23 m	756	58
DTP3	Card	60	12-23 m	756	58
DTP3	C or H <12 months	68	12-23 m	756	58
MCV	History	24	12-23 m	756	58
MCV	Card or History	69	12-23 m	756	58
MCV	Card	45	12-23 m	756	58
MCV	C or H <12 months	66	12-23 m	756	58
Pol1	History	29	12-23 m	756	58
Pol1	Card	68	12-23 m	756	58
Pol1	Card or History	96	12-23 m	756	58
Pol1	C or H <12 months	95	12-23 m	756	58
Pol3	History	12	12-23 m	756	58
Pol3	Card or History	72	12-23 m	756	58
Pol3	Card	60	12-23 m	756	58
Pol3	C or H <12 months	68	12-23 m	756	58

2001 Encuesta Demográfica y de Salud 2002

# Dominican Republic - survey details

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	47	12-23 m	2184	50
BCG	Card or History	94	12-23 m	2184	50
BCG	History	46	12-23 m	2184	50
BCG	C or H <12 months	93	12-23 m	2184	50
DTP1	C or H <12 months	92	12-23 m	2184	50
DTP1	History	46	12-23 m	2184	50
DTP1	Card or History	94	12-23 m	2184	50
DTP1	Card	48	12-23 m	2184	50
DTP3	C or H <12 months	52	12-23 m	2184	50
DTP3	History	18	12-23 m	2184	50
DTP3	Card or History	56	12-23 m	2184	50
DTP3	Card	39	12-23 m	2184	50
MCV	History	45	12-23 m	2184	50
MCV	Card or History	88	12-23 m	2184	50
MCV	Card	43	12-23 m	2184	50
MCV	C or H <12 months	75	12-23 m	2184	50
Pol1	C or H <12 months	90	12-23 m	2184	50
Pol1	History	43	12-23 m	2184	50
Pol1	Card	49	12-23 m	2184	50
Pol1	Card or History	92	12-23 m	2184	50
Pol3	C or H <12 months	39	12-23 m	2184	50
Pol3	Card	38	12-23 m	2184	50
Pol3	Card or History	44	12-23 m	2184	50
Pol3	History	6	12-23 m	2184	50

1999 Encuesta de Agrupación de Indicadores Múltiples (MICS-2000), 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	History	33	12-23 m	431	65
BCG	Card or History	94	12-23 m	431	65
BCG	Card	60	12-23 m	431	65
BCG	C or H <12 months	93	12-23 m	431	65
DTP1	History	32	12-23 m	431	65
DTP1	Card	60	12-23 m	431	65
DTP1	Card or History	92	12-23 m	431	65
DTP1	C or H <12 months	90	12-23 m	431	65
DTP3	C or H <12 months	59	12-23 m	431	65
DTP3	Card	49	12-23 m	431	65
DTP3	Card or History	62	12-23 m	431	65
DTP3	History	12	12-23 m	431	65
HepB3	History	0	12-23 m	431	65
HepB3	Card or History	31	12-23 m	431	65
HepB3	Card	31	12-23 m	431	65
HepB3	C or H <12 months	29	12-23 m	431	65
MCV	Card	53	12-23 m	431	65
MCV	Card or History	80	12-23 m	431	65
MCV	History	27	12-23 m	431	65
MCV	C or H <12 months	73	12-23 m	431	65
Pol1	History	31	12-23 m	431	65
Pol1	C or H <12 months	89	12-23 m	431	65
Pol1	Card or History	91	12-23 m	431	65
Pol1	Card	60	12-23 m	431	65
Pol3	C or H <12 months	56	12-23 m	431	65
Pol3	Card	47	12-23 m	431	65
Pol3	Card or History	59	12-23 m	431	65
Pol3	History	12	12-23 m	431	65

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)

## Dominican Republic

### 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	80
1998	71
1999	61
2000	48
2001	32
2002	83
2003	84
2004	86
2005	75
2006	85
2007	85
2008	86
2009	86

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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.