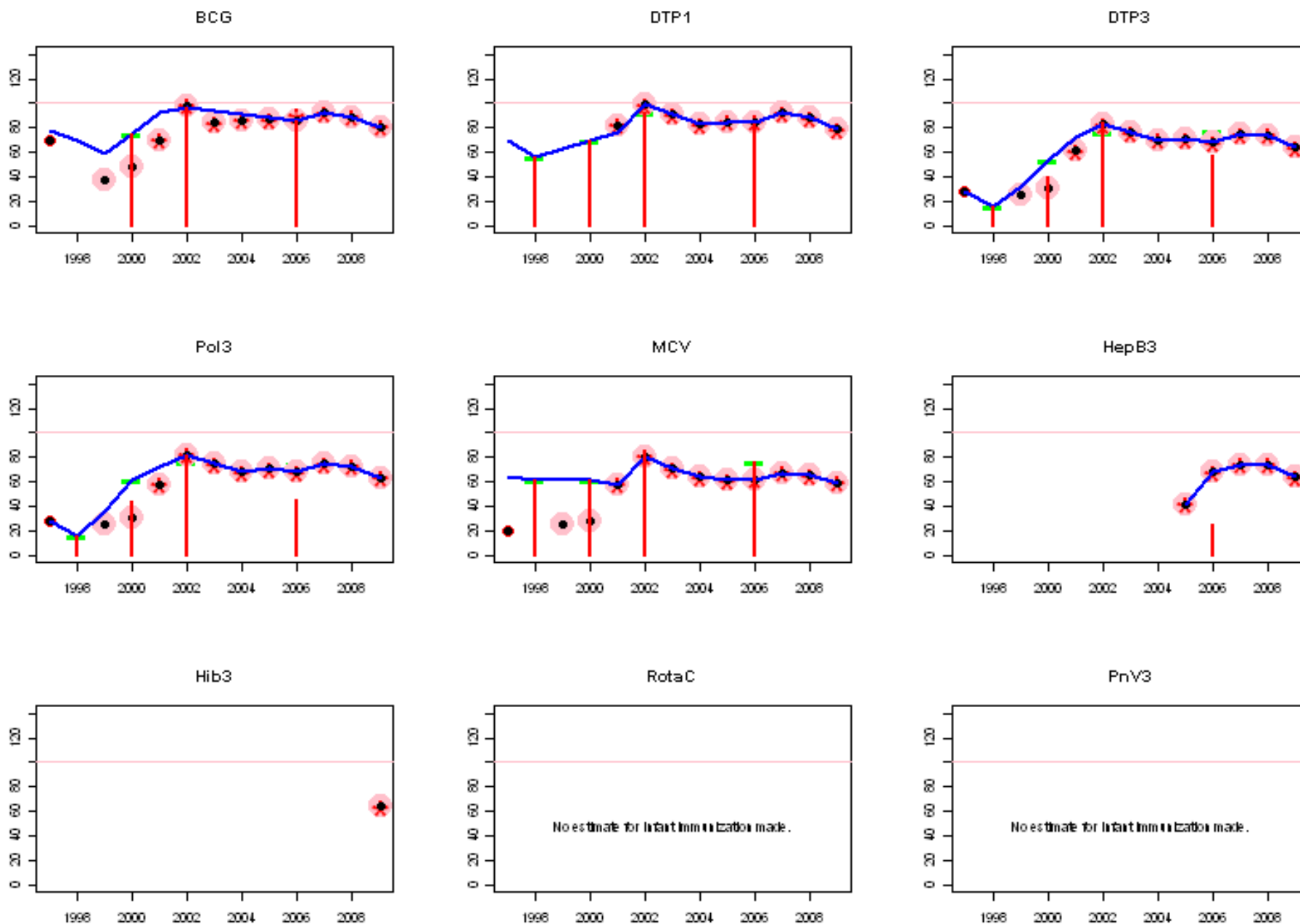
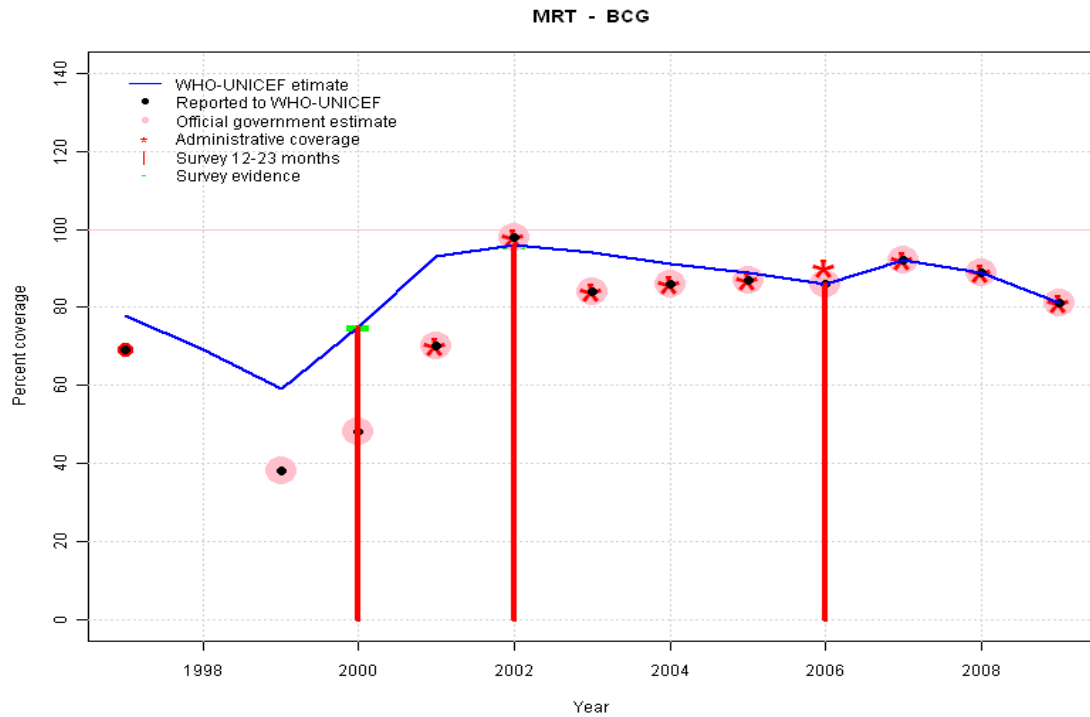


Mauritania: WHO and UNICEF estimates of immunization coverage, 1997 - 2009



Mauritania - BCG



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	78	69	59	75	93	96	94	91	89	86	92	89	81
Reported	69	NA	38	48	70	98	84	86	87	86	92	89	81
Official	NA	NA	38	48	70	98	84	86	87	86	92	89	81
Administrative	NA	NA	NA	NA	70	98	84	86	87	90	92	89	81
Survey	NA	NA	NA	75	NA	96	NA	NA	NA	86	NA	NA	NA

Description:

1997: Legacy estimate.

1998: Reported data (54 percent) calibrated to 1997 and 2000 levels. Missing or ignored reported value estimated by interpolation between reported values of 69 percent in 1997 and 38 percent in 1999.

1999: Reported data (38 percent) calibrated to 1997 and 2000 levels.

2000: Estimate based on survey results. Reported data (48 percent) not consistent with survey results (75 percent).

2001: Reported data (70 percent) calibrated to 2000 and 2002 levels.

2002: Estimate based on survey results. Reported data (77 percent) not consistent with survey results (96 percent). 2002 reported data (98 percent) inconsistent with data from other years.

2003: Estimate interpolated between 2002 and 2006 estimates.

2004: Estimate interpolated between 2002 and 2006 estimates.

2005: Estimate interpolated between 2002 and 2006 estimates.

2006: Estimate based on reported data (86 percent) confirmed by survey (86 percent).

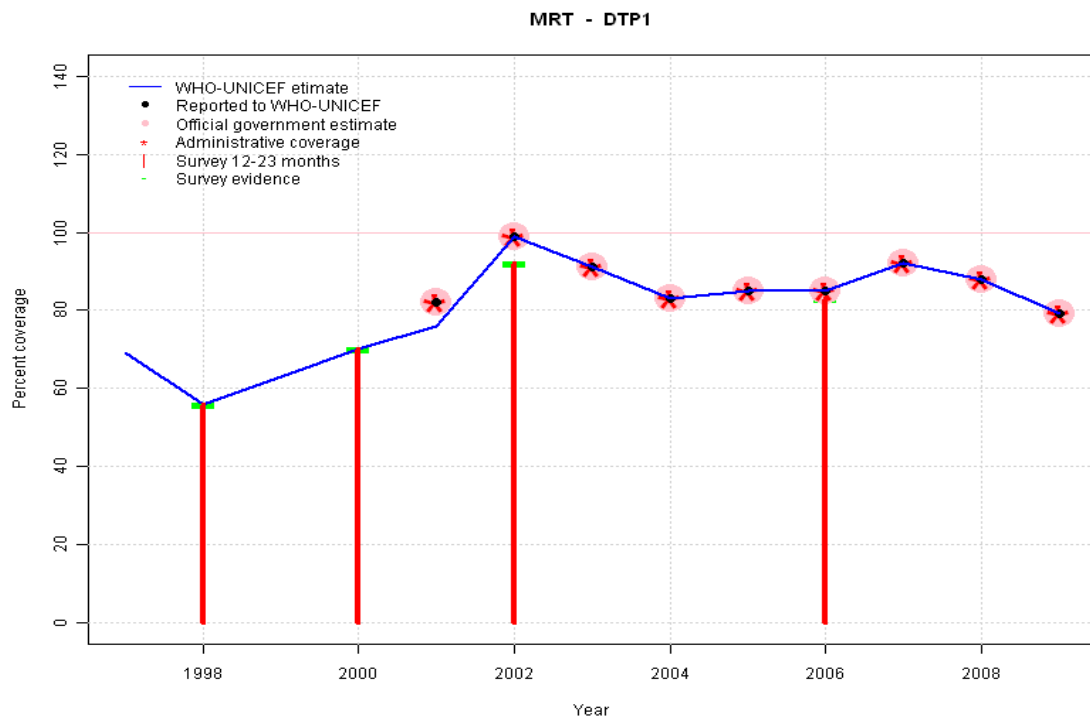
2007: Estimate based on reported data.

2008: Estimate based on reported data.

2009: Estimate based on reported data.

Mauritania - DTP1

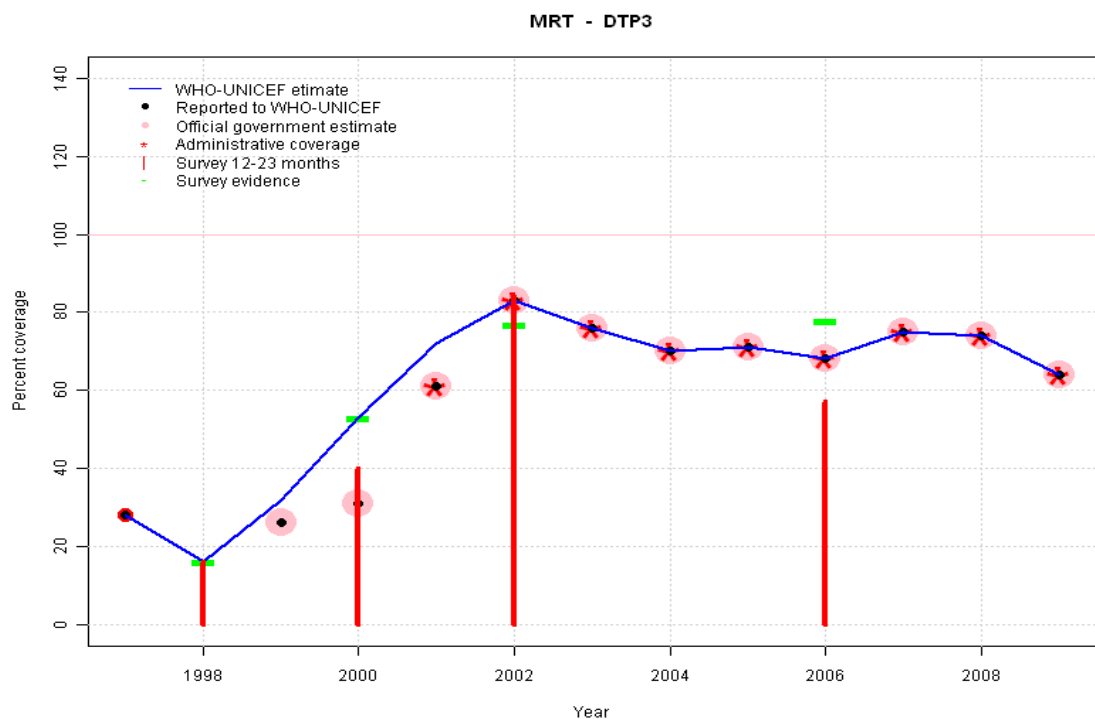
Description:



- 1997: Legacy estimate.
- 1998: Estimate based on survey results. Reported data (82 percent) not consistent with survey results (56 percent).
- 1999: Estimate interpolated between 1998 and 2000 estimates.
- 2000: Estimate based on survey results. Reported data (82 percent) not consistent with survey results (70 percent).
- 2001: Reported data (82 percent) calibrated to 2000 and 2002 levels.
- 2002: Estimate based on reported data (99 percent) confirmed by survey (92 percent).
- 2003: Estimate based on reported data.
- 2004: Estimate based on reported data.
- 2005: Estimate based on reported data.
- 2006: Estimate based on reported data (85 percent) confirmed by survey (83 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	69	56	63	70	76	99	91	83	85	85	92	88	79
Reported	NA	NA	NA	NA	82	99	91	83	85	85	92	88	79
Official	NA	NA	NA	NA	82	99	91	83	85	85	92	88	79
Administrative	NA	NA	NA	NA	82	99	91	83	85	85	92	88	79
Survey	NA	56	NA	70	NA	92	NA	NA	NA	83	NA	NA	NA

Mauritania - DTP3



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	28	16	32	53	72	83	76	70	71	68	75	74	64
Reported	28	NA	26	31	61	83	76	70	71	68	75	74	64
Official	NA	NA	26	31	61	83	76	70	71	68	75	74	64
Administrative	NA	NA	NA	NA	61	83	76	70	71	68	75	74	64
Survey	NA	16	NA	53	NA	77	NA	NA	NA	78	NA	NA	NA

Description:

1997: Legacy estimate.

1998: Estimate based on survey results. Reported data (27 percent) not consistent with survey results (16 percent).

1999: Reported data (26 percent) calibrated to 1998 and 2000 levels.

2000: Estimate based on survey results. Reported data (31 percent) not consistent with survey results (53 percent). Survey results (40 percent) adjusted for recall bias to 53 percent based on first dose card or history coverage (70 percent) and documented drop-out between first (33 percent) and third (25 percent) doses.

2001: Reported data (61 percent) calibrated to 2000 and 2002 levels.

2002: Estimate based on reported data (83 percent) confirmed by survey (77 percent). Survey results (84 percent) adjusted for recall bias to 77 percent based on first dose card or history coverage (92 percent) and documented drop-out between first (36 percent) and third (30 percent) doses.

2003: Estimate based on reported data.

2004: Estimate based on reported data.

2005: Estimate based on reported data.

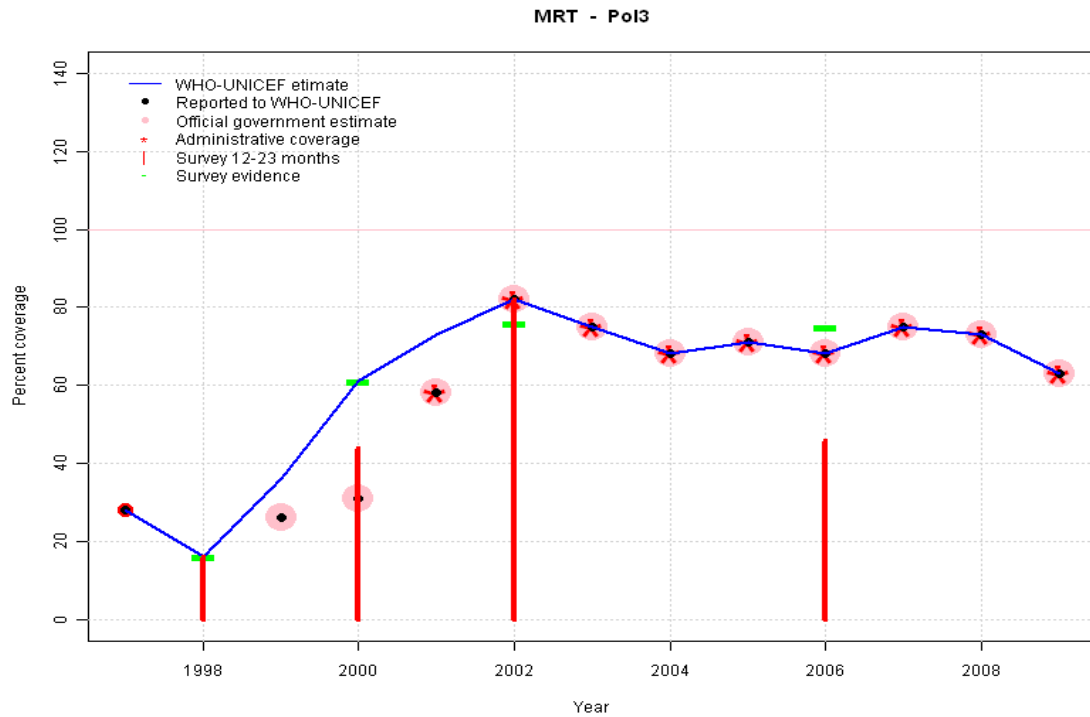
2006: Estimate based on reported data (68 percent) confirmed by survey (78 percent). Survey results (57 percent) adjusted for recall bias to 78 percent based on first dose card or history coverage (83 percent) and documented drop-out between first (31 percent) and third (29 percent) doses.

2007: Estimate based on reported data.

2008: Estimate based on reported data.

2009: Estimate based on reported data.

Mauritania - Pol3



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	28	16	36	61	73	82	75	68	71	68	75	73	63
Reported	28	NA	26	31	58	82	75	68	71	68	75	73	63
Official	NA	NA	26	31	58	82	75	68	71	68	75	73	63
Administrative	NA	NA	NA	NA	58	82	75	68	71	68	75	73	63
Survey	NA	16	NA	61	NA	76	NA	NA	NA	75	NA	NA	NA

Description:

1997: Legacy estimate.

1998: Estimate based on survey results. Reported data (27 percent) not consistent with survey results (16 percent).

1999: Reported data (26 percent) calibrated to 1998 and 2000 levels.

2000: Estimate based on survey results. Reported data (31 percent) not consistent with survey results (61 percent). Survey results (44 percent) adjusted for recall bias to 61 percent based on first dose card or history coverage (80 percent) and documented drop-out between first (34 percent) and third (26 percent) doses.

2001: Reported data (58 percent) calibrated to 2000 and 2002 levels.

2002: Estimate based on reported data (82 percent) confirmed by survey (76 percent). Survey results (82 percent) adjusted for recall bias to 76 percent based on first dose card or history coverage (89 percent) and documented drop-out between first (34 percent) and third (29 percent) doses.

2003: Estimate based on reported data.

2004: Estimate based on reported data.

2005: Estimate based on reported data.

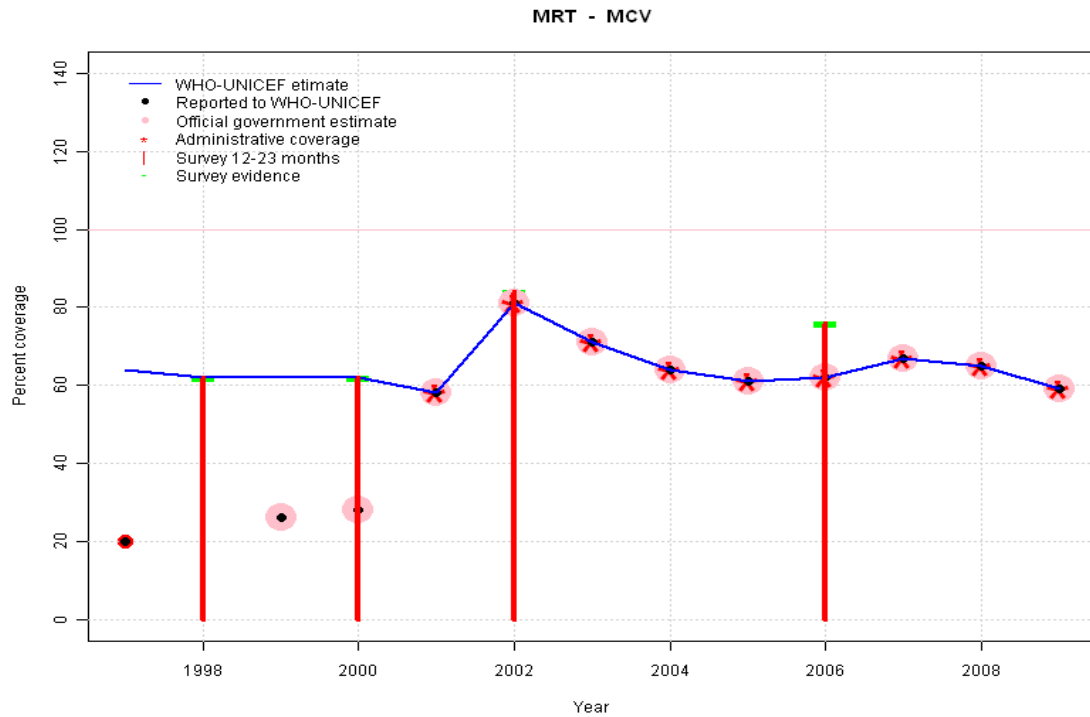
2006: Estimate based on reported data (68 percent) confirmed by survey (75 percent). Survey results (46 percent) adjusted for recall bias to 75 percent based on first dose card or history coverage (80 percent) and documented drop-out between first (30 percent) and third (28 percent) doses.

2007: Estimate based on reported data.

2008: Estimate based on reported data.

2009: Estimate based on reported data.

Mauritania - MCV



Description:

1997: Legacy estimate.

1998: Estimate based on survey results. Reported data (23 percent) not consistent with survey results (62 percent).

1999: Estimate interpolated between 1998 and 2000 estimates.

2000: Estimate based on survey results. Reported data (28 percent) not consistent with survey results (62 percent).

2001: Estimate is based on the reported data.

2002: Estimate based on reported data (81 percent) confirmed by survey (84 percent).

2003: Estimate based on reported data.

2004: Estimate based on reported data.

2005: Estimate based on reported data.

2006: Survey confirms reported data for all antigens.

2007: Estimate based on reported data.

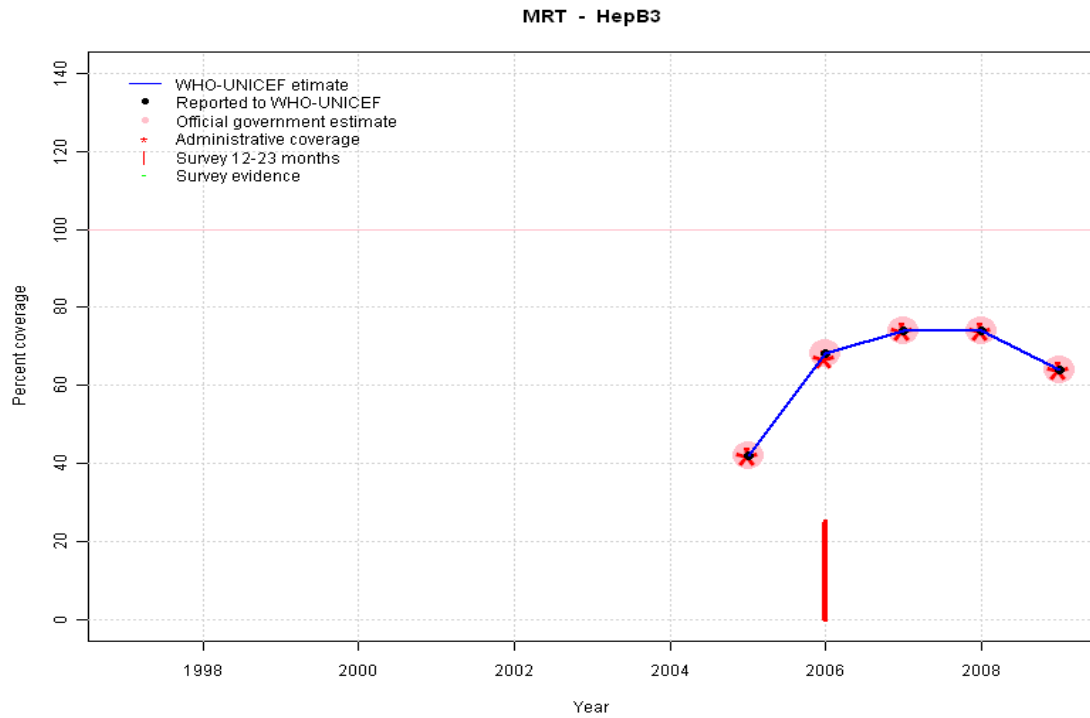
2008: Estimate based on reported data.

2009: Estimate based on reported data.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	64	62	62	62	58	81	71	64	61	62	67	65	59
Reported	20	NA	26	28	58	81	71	64	61	62	67	65	59
Official	NA	NA	26	28	58	81	71	64	61	62	67	65	59
Administrative	NA	NA	NA	NA	58	81	71	64	61	62	67	65	59
Survey	NA	62	NA	62	NA	84	NA	NA	NA	76	NA	NA	NA

Mauritania - HepB3

Description:



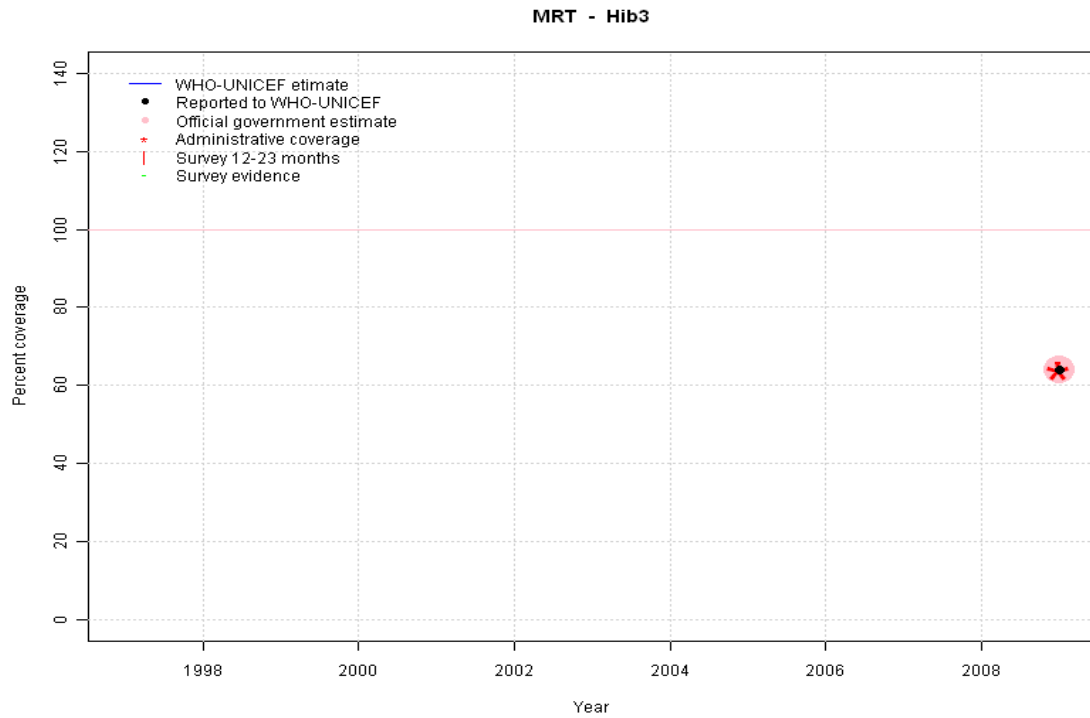
2005: Estimate based on reported data. HepB introduced in 2005
 2006: Estimate based on reported data. Survey results of 25 percent ignored by working group. Insufficient information to adjust survey results for recall bias.
 2007: Estimate based on reported data.
 2008: Estimate based on reported data.
 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	42	68	74	74	64
Reported	NA	NA	NA	NA	NA	NA	NA	NA	42	68	74	74	64
Official	NA	NA	NA	NA	NA	NA	NA	NA	42	68	74	74	64
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	42	67	74	74	64
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Mauritania - Hib3

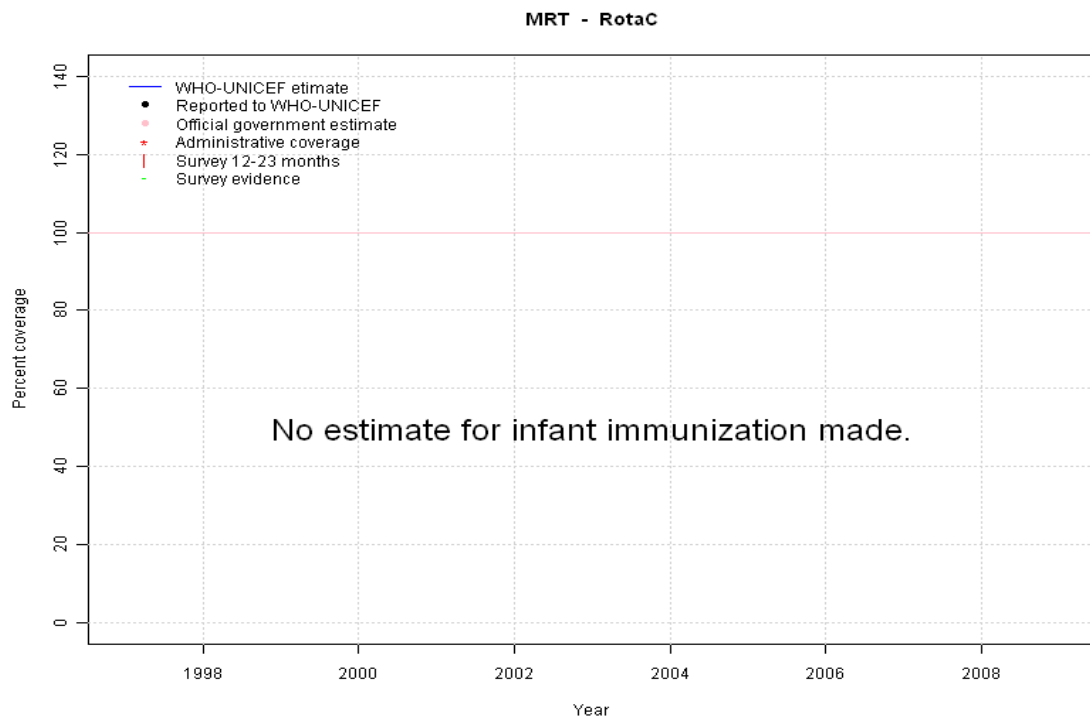
Description:

2009: Estimate based on reported data. Hib introduced in 2009 Vaccine presentation is DTP-HepB-Hib.



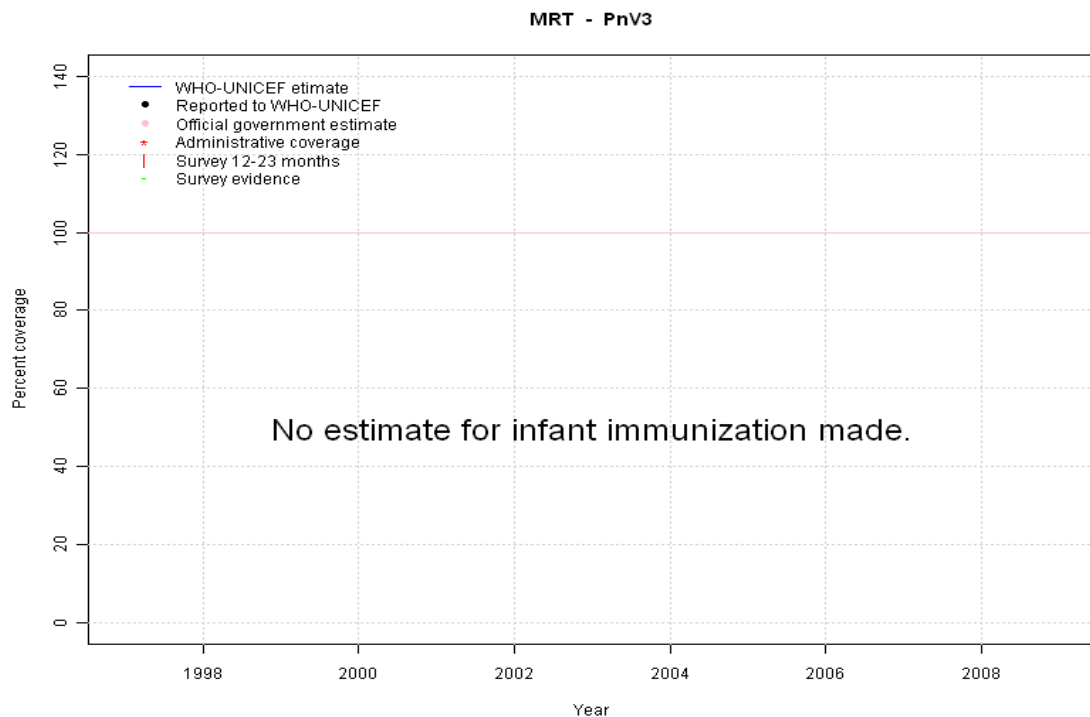
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	64
Reported	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	64
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	64
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	64
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Mauritania - 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

Mauritania - 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

Mauritania - survey details

2006 L'enquête par grappes à indicateurs multiples de la Mauritanie (MICS 2007)

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	32	12-23 m	1681	32
BCG	C or H <12 months	84	12-23 m	1681	32
BCG	History	53	12-23 m	1681	32
BCG	Card or History	86	12-23 m	1681	32
DTP1	History	52	12-23 m	1681	32
DTP1	Card or History	83	12-23 m	1681	32
DTP1	Card	31	12-23 m	1681	32
DTP1	C or H <12 months	79	12-23 m	1681	32
DTP3	C or H <12 months	53	12-23 m	1681	32
DTP3	History	28	12-23 m	1681	32
DTP3	Card	29	12-23 m	1681	32
DTP3	Card or History	57	12-23 m	1681	32
HepB1	Card or History	27	12-23 m	1681	32
HepB3	Card or History	25	12-23 m	1681	32
MCV	History	48	12-23 m	1681	32
MCV	Card or History	76	12-23 m	1681	32
MCV	C or H <12 months	74	12-23 m	1681	32
MCV	Card	28	12-23 m	1681	32
Pol1	C or H <12 months	76	12-23 m	1681	32
Pol1	History	50	12-23 m	1681	32
Pol1	Card or History	80	12-23 m	1681	32
Pol1	Card	30	12-23 m	1681	32
Pol3	Card or History	46	12-23 m	1681	32
Pol3	Card	28	12-23 m	1681	32
Pol3	History	18	12-23 m	1681	32
Pol3	C or H <12 months	42	12-23 m	1681	32

2002 Enquete sur la couverture vaccinale et la mobilisation sociale, Mauritanie, 2004

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or history	96	12-23 m	2774	0
DTP1	Card or history	92	12-23 m	2774	0
DTP1	Card	36	12-23 m	2774	0

DTP3	Card	30	12-23 m	2774	0
DTP3	Card or history	84	12-23 m	2774	0
MCV	Card or history	84	12-23 m	2774	0
MCV	Card	30	12-23 m	2774	0
Pol1	Card or history	89	12-23 m	2774	0
Pol1	Card	34	12-23 m	2774	0
Pol3	Card	29	12-23 m	2774	0
Pol3	Card or history	82	12-23 m	2774	0

2000 Enquête Démographique et de Santé Mauritanie 2000-2001, 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	History	42	12-23 m	950	34
BCG	Card	33	12-23 m	950	34
BCG	C or H <12 months	68	12-23 m	950	34
BCG	Card or History	75	12-23 m	950	34
DTP1	History	37	12-23 m	950	34
DTP1	Card or History	70	12-23 m	950	34
DTP1	C or H <12 months	61	12-23 m	950	34
DTP1	Card	33	12-23 m	950	34
DTP3	Card	25	12-23 m	950	34
DTP3	Card or History	40	12-23 m	950	34
DTP3	C or H <12 months	33	12-23 m	950	34
DTP3	History	15	12-23 m	950	34
MCV	Card or History	62	12-23 m	950	34
MCV	History	36	12-23 m	950	34
MCV	Card	26	12-23 m	950	34
MCV	C or H <12 months	45	12-23 m	950	34
Pol1	Card	34	12-23 m	950	34
Pol1	Card or History	80	12-23 m	950	34
Pol1	History	46	12-23 m	950	34
Pol1	C or H <12 months	70	12-23 m	950	34
Pol3	C or H <12 months	37	12-23 m	950	34
Pol3	Card	26	12-23 m	950	34
Pol3	Card or History	44	12-23 m	950	34
Pol3	History	18	12-23 m	950	34

Mauritania - survey details

1998 Enquête Nationale de Couverture Vaccinale-MSAS, 1999

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or Scar	80	12-23 m	2287	78
DTP1	Card or History	56	12-23 m	2287	78

DTP3	Card or History	16	12-23 m	2287	78
MCV	Card or History	62	12-23 m	2287	78
Pol1	Card or History	56	12-23 m	2287	78
Pol3	Card or History	16	12-23 m	2287	78

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

Mauritania

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	70
1998	57
1999	40
2000	44
2001	51
2002	59
2003	58
2004	62
2005	59
2006	62
2007	77
2008	77
2009	87

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.