

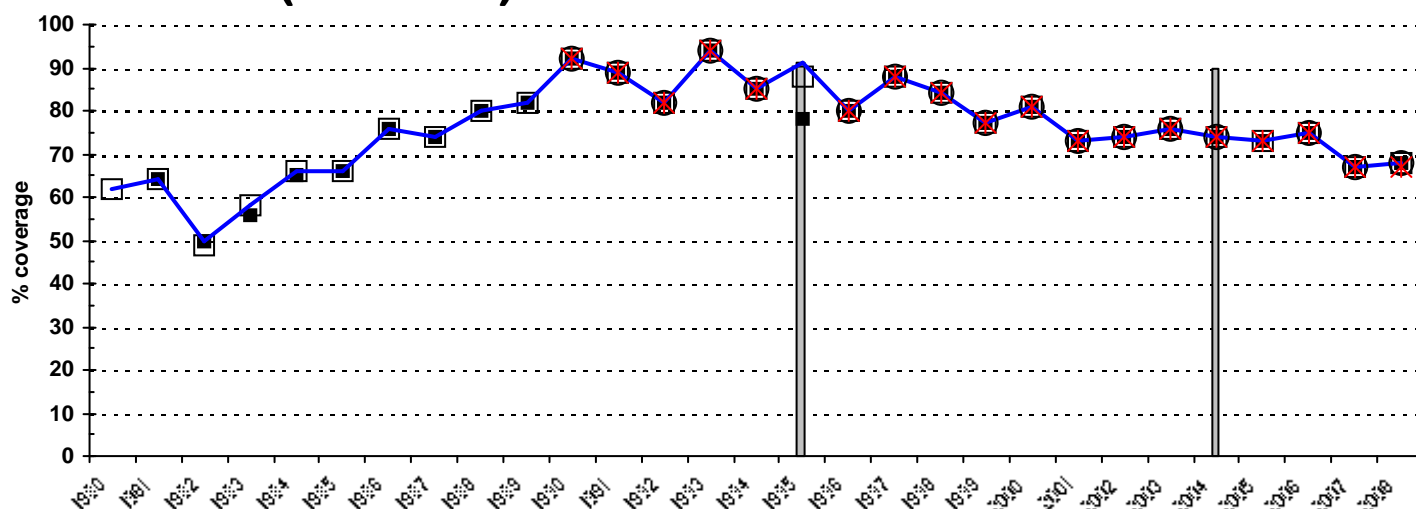
**WHO/UNICEF
Review of National Immunization Coverage
1980-2008**

Papua New Guinea

July, 2009

Papua New Guinea

BCG (1980-2008)



Description of trend

Estimated immunization coverage levels are based on reported data.

Data presented in chart

Year	WHO/ UNICEF estimate (%)	Reported to:*		Government official estimate (%)	Reported doses administered (%)**	Survey data (%)***	
		WHO (%)	UNICEF (%)			Survey 12-23 months	Survey <12 months
1980	62	62					
1981	64	64	64				
1982	50	49	50				
1983	58	58	56				
1984	66	66	65				
1985	66	66	66				
1986	76	76	76				
1987	74	74	74				
1988	80	80	80				
1989	82	82	82				
1990	92	92	92	92	92		
1991	89	89	89	89	89		
1992	82	82	82	82	82		
1993	94	94	94	94	94		
1994	85	85	85	85	85		
1995	91	88	78			91	
1996	80	80	80	80	80		
1997	88	88	88	88	88		
1998	84	84	84	84	84		
1999	77	77	77	77	77		
2000	81	81	81	81	81		
2001	73	73	73	73	73		
2002	74	74	74	74	74		
2003	76	76	76	76	76		
2004	74	74	74	74	74	90	
2005	73	73	73		73		
2006	75	75	75	75	75		
2007	67	67	67	67	67		
2008	68	68	68	68	67		

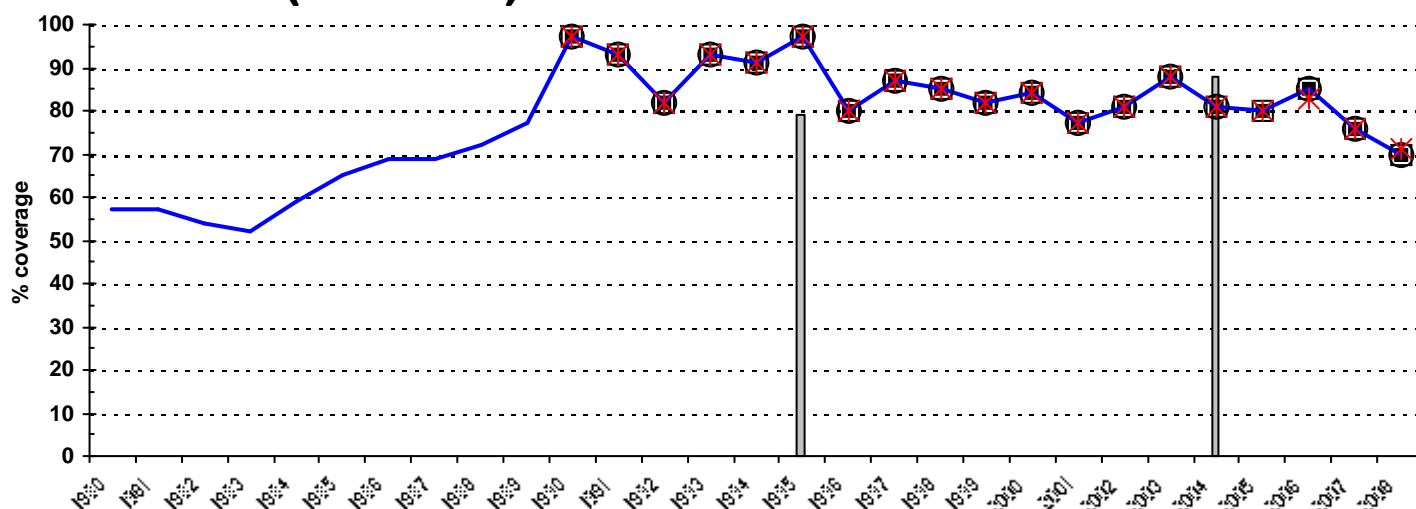
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Papua New Guinea

DTP1 (1980-2008)



Description of trend

WHO and UNICEF began requesting data on DTP1 coverage in 2001 and have received national reports reflecting DTP1 coverage from 1991 onward. The DTP1 estimates from 1990 onward are based on these reports. For years prior to 1990 the estimates are derived from the WHO/UNICEF estimates of DTP3 and the relationship between the levels of DTP3 coverage and the drop-out between DTP1 and DTP3. This relationship results from an analysis of 282 surveys conducted in 101 countries which were published between 1980 and 2004. Decline in 2008 was the result of 5 months vaccine shortage.

Data presented in chart

Year	WHO/ UNICEF estimate (%)	Reported to:*		Government official estimate (%)	Reported doses administered (%)**	Survey data (%)***	
		WHO (%)	UNICEF (%)			Survey 12-23 months	Survey <12 months
1980	57						
1981	57						
1982	54						
1983	52						
1984	59						
1985	65						
1986	69						
1987	69						
1988	72						
1989	77						
1990	97	97	97	97	97		
1991	93	93	93	93	93		
1992	82	82	82	82	82		
1993	93	93	93	93	93		
1994	91	91	91	91	91		
1995	97	97	97	97	97	79	
1996	80	80	80	80	80		
1997	87	87	87	87	87		
1998	85	85	85	85	85		
1999	82	82	82	82	82		
2000	84	84	84	84	84		
2001	77	77	77	77	77		
2002	81	81	81	81	81		
2003	88	88	88	88	88		
2004	81	81	81	81	81	88	
2005	80	80	80		80		
2006	85	85	85	85	83		
2007	76	76	76	76	76		
2008	70	70	70	70	71		

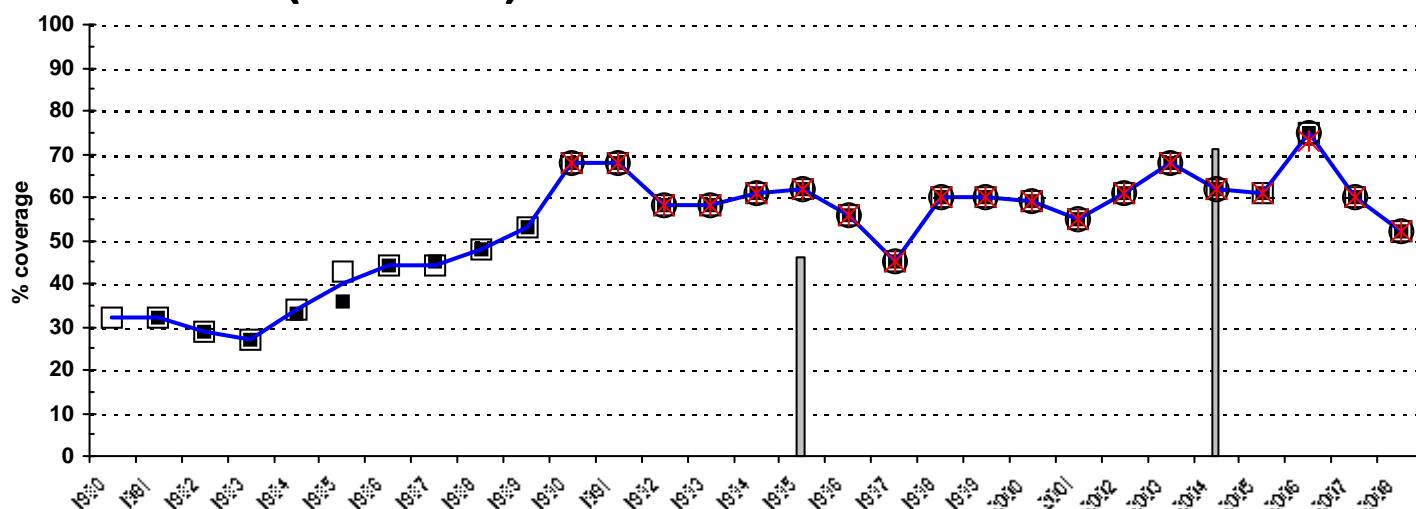
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Papua New Guinea

DTP3 (1980-2008)



Description of trend

Estimated immunization coverage levels are based on reported data. In 2006 official government estimates are based on administrative data adjusted for incomplete reporting by government facilities, NGOs, church-run hospitals and private clinics/hospitals to the National Health Information System. Decline in 2008 was the result of 5 months vaccine shortage.

Data presented in chart

Year	WHO/ UNICEF estimate (%)	Reported to:*		Government official estimate (%)	Reported doses administered (%)**	Survey data (%)***	
		WHO (%)	UNICEF (%)			Survey 12-23 months	Survey <12 months
1980	32	32					
1981	32	32	32				
1982	29	29	29				
1983	27	27	27				
1984	34	34	33				
1985	40	43	36				
1986	44	44	44				
1987	44	44	45				
1988	48	48	48				
1989	53	53	53				
1990	68	68	68	68	68		
1991	68	68	68	68	68		
1992	58	58	58	58	58		
1993	58	58	58	58	58		
1994	61	61	61	61	61		
1995	62	62	62	62	62	46	
1996	56	56	56	56	56		
1997	45	45	45	45	45		
1998	60	60	60	60	60		
1999	60	60	60	60	60		
2000	59	59	59	59	59		
2001	55	55	55	55	55		
2002	61	61	61	61	61		
2003	68	68	68	68	68		
2004	62	62	62	62	62	71	
2005	61	61	61	62	61		
2006	75	75	75	75	73		
2007	60	60	60	60	60		
2008	52	52	52	52	52		

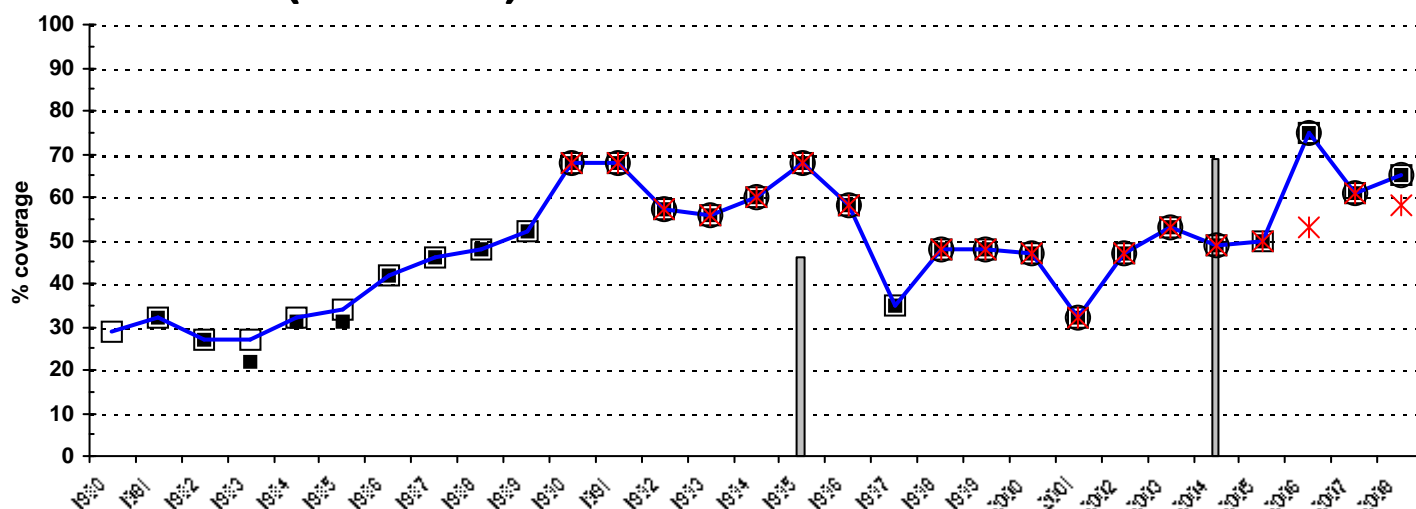
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Papua New Guinea

Pol3 (1980-2008)



Description of trend

Officially reported data suggest a steady improvement of coverage levels between 1980 and 1990, but show fluctuating coverage between 1990 and 2008. Nationally reported administrative data updated from 1990-2004. In 2006 official government estimates are based on administrative data adjusted for incomplete reporting by government facilities, NGOs, church-run hospitals and private clinics/hospitals to the National Health Information System.

Data presented in chart

Year	WHO/ UNICEF estimate (%)	Reported to:*		Government official estimate (%)	Reported doses administered (%)**	Survey data (%)***	
		WHO (%)	UNICEF (%)			Survey 12-23 months	Survey <12 months
1980	29	29					
1981	32	32	32				
1982	27	27	27				
1983	27	27	22				
1984	32	32	31				
1985	34	34	31				
1986	42	42	42				
1987	46	46	46				
1988	48	48	48				
1989	52	52	52				
1990	68	68	68	68	68		
1991	68	68	68	68	68		
1992	57	57	57	57	57		
1993	56	56	56	56	56		
1994	60	60	60	60	60		
1995	68	68	68	68	68	46	
1996	58	58	58	58	58		
1997	35	35	35				
1998	48	48	48	48	48		
1999	48	48	48	48	48		
2000	47	47	47	47	47		
2001	32	32	32	32	32		
2002	47	47	47	47	47		
2003	53	53	53	53	53		
2004	49	49	49	49	49	69	
2005	50	50	50		50		
2006	75	75	75	75	53		
2007	61	61	61	61	61		
2008	65	65	65	65	58		

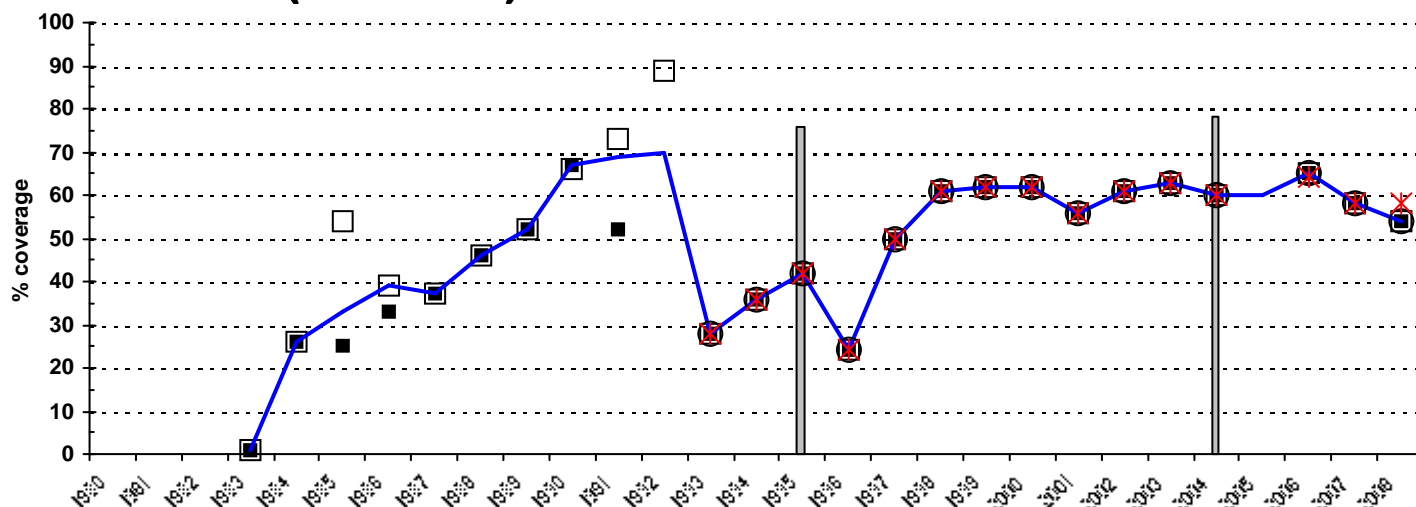
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Papua New Guinea

MCV (1980-2008)



Description of trend

Estimated immunization coverage levels are based on reported data. From 1993-1995 the first dose of measles was recommended at nine months of age. Since 1996 Papua New Guinea recommends measles vaccination at 6 and 9 months of age.

Data presented in chart

Year	WHO/ UNICEF estimate (%)	Reported to:*		Government official estimate (%)	Reported doses administered (%)**	Survey data (%)***	
		WHO (%)	UNICEF (%)			Survey 12-23 months	Survey <12 months
1980							
1981							
1982							
1983	1	1	1				
1984	26	26	26				
1985	33	54	25				
1986	39	39	33				
1987	37	37	37				
1988	46	46	46				
1989	52	52	52				
1990	67	66	67				
1991	69	73	52				
1992	70	89					
1993	28	28	28	28	28		
1994	36	36	36	36	36		
1995	42	42	42	42	42	76	
1996	24	24	24	24	24		
1997	50	50	50	50	50		
1998	61	61	61	61	61		
1999	62	62	62	62	62		
2000	62	62	62	62	62		
2001	56	56	56	56	56		
2002	61	61	61	61	61		
2003	63	63	63	63	63		
2004	60	60	60	60	60	78	
2005	60						
2006	65	65	65	65	64		
2007	58	58	58	58	58		
2008	54	54	54	54	58		

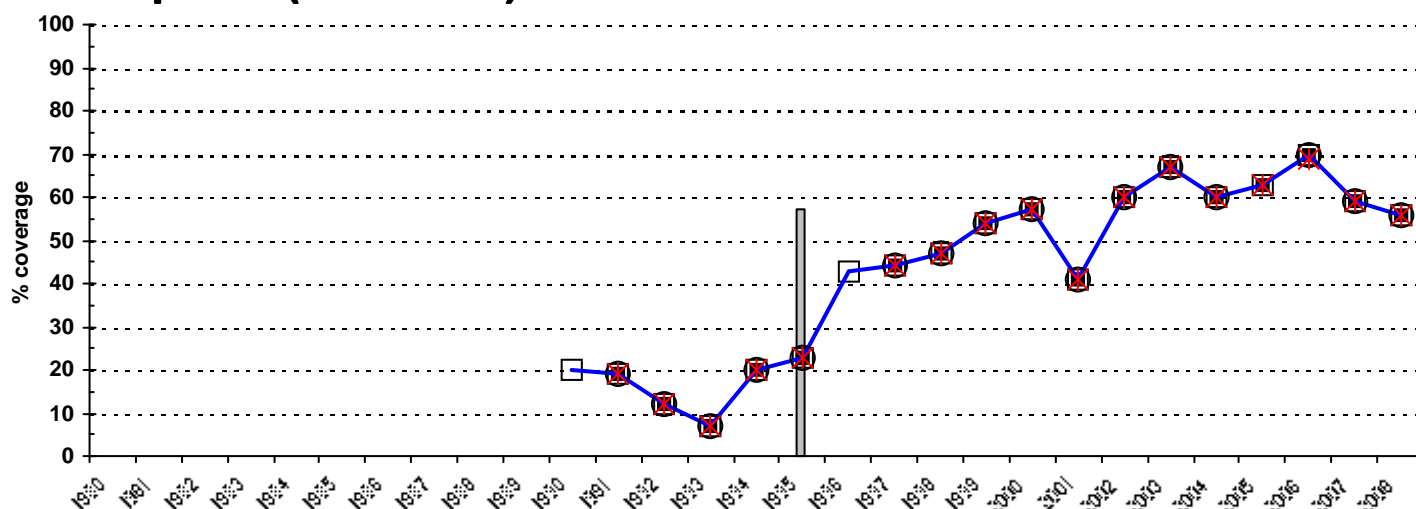
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Papua New Guinea

HepB3 (1980-2008)



Description of trend

Hepatitis B introduced in 1990. Coverage estimates follow officially reported data. Decline in 2008 the result of 5 months vaccine shortage.

Data presented in chart

Year	WHO/ UNICEF estimate (%)	Reported to:*		Government official estimate (%)	Reported doses administered (%)**	Survey data (%)***	
		WHO (%)	UNICEF (%)			Survey 12-23 months	Survey <12 months
1980							
1981							
1982							
1983							
1984							
1985							
1986							
1987							
1988							
1989							
1990	20	20					
1991	19	19	19	19	19		
1992	12	12	12	12	12		
1993	7	7	7	7	7		
1994	20	20	20	20	20		
1995	23	23	23	23	23	57	
1996	43	43					
1997	44	44	44	44	44		
1998	47	47	47	47	47		
1999	54	54	54	54	54		
2000	57	57	57	57	57		
2001	41	41	41	41	41		
2002	60	60	60	60	60		
2003	67	67	67	67	67		
2004	60	60	60	60	60		
2005	63	63	63		63		
2006	70	70	70	70	69		
2007	59	59	59	59	59		
2008	56	56	56	56	56		

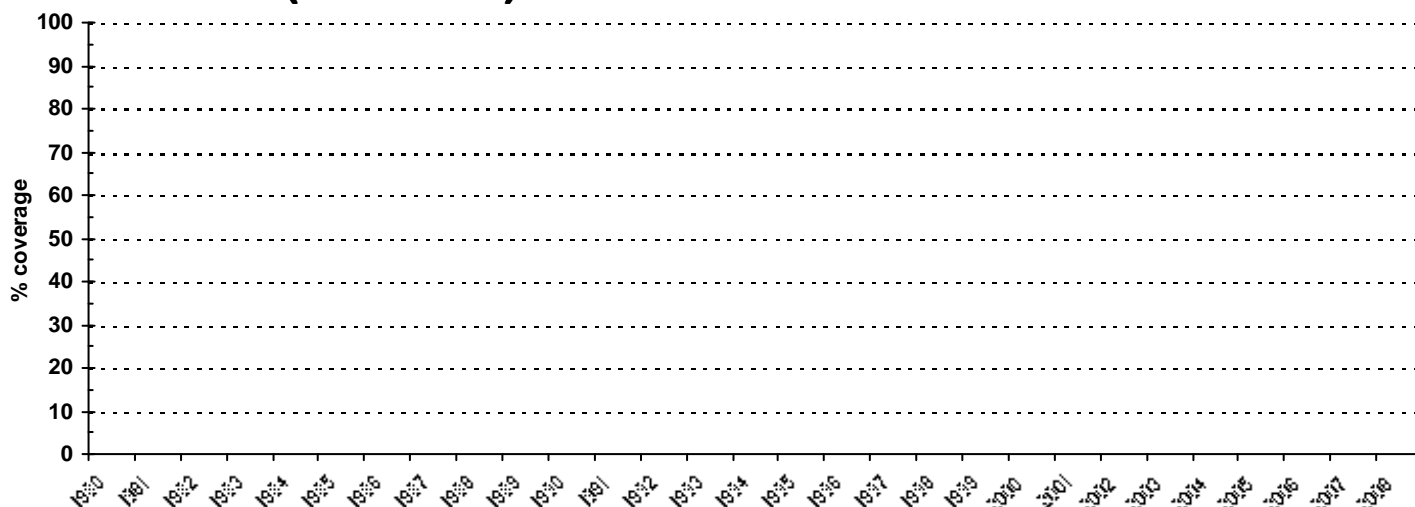
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Papua New Guinea

Hib3 (1980-2008)



Description of trend

Tetravalent DTP-Hib vaccine introduced in 2008.

Data presented in chart

Year	WHO/ UNICEF estimate (%) —	Reported to:*		Government official estimate (%) ○	Reported doses administered (%)** ✗	Survey data (%)***	
		WHO (%) □	UNICEF (%) ■			Survey 12-23 months ▮	Survey <12 months +
1980							
1981							
1982							
1983							
1984							
1985							
1986							
1987							
1988							
1989							
1990							
1991							
1992							
1993							
1994							
1995							
1996							
1997							
1998							
1999							
2000							
2001							
2002							
2003							
2004							
2005							
2006							
2007							
2008							

*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Papua New Guinea

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
2004 National Immunization Coverage Survey 2005-2006, Papua New Guinea								
BCG	Card or History	90.3		12-23 m	783	92.6	2005/2006	
DTP1	Card or History	87.5		12-23 m	776	92.6	2005/2006	
DTP3	Card or History	71		12-23 m	783	92.6	2005/2006	
Pol3	Card or History	68.7		12-23 m	776	92.6	2005/2006	
MCV	Card or History	77.9		12-23 m	776	92.6	2005/2006	
PAB	n.a.	44.3		CBAW		92.6	2005/2006	
PAB	Card	44.3		CBAW	187	62.3	2005/2006	

1995 Papua New Guinea Demographic and Health Survey 1996 (National Report)

BCG	Card or History	90.7		12-23 m	706	67.8	1996	
DTP1	Card or History	78.9		12-23 m	706	67.8	1996	
DTP3	Card or History	46.5		12-23 m	706	67.8	1996	
Pol3	Card or History	46.5		12-23 m	706	67.8	1996	
MCV	Card or History	75.6		12-23 m	706	67.8	1996	
HepB	Card or History	57.4		12-23 m	706	67.8	1996	

Papua New Guinea

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.

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.

Papua New Guinea

Year	PAB coverage estimate (%)
1980	45
1981	39
1982	32
1983	21
1984	10
1985	25
1986	21
1987	31
1988	62
1989	62
1990	78
1991	75
1992	51
1993	41
1994	51
1995	60
1996	69
1997	68
1998	31
1999	30
2000	24
2001	45
2002	47
2003	46
2004	49
2005	53
2006	57
2007	60
2008	61