

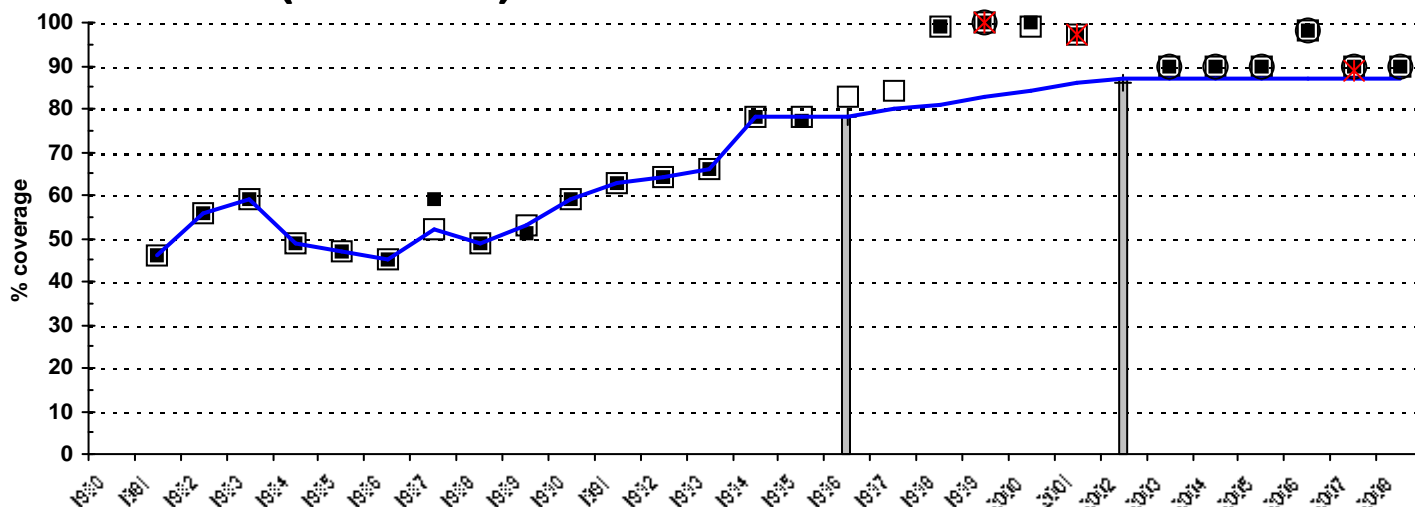
**WHO/UNICEF
Review of National Immunization Coverage
1980-2008**

Mozambique

July, 2009

Mozambique

BCG (1980-2008)



Description of trend

Estimated immunization coverage levels from 1981 through 1995 are based on reported data, estimates from 1996 onward are based on survey results. In 2002 a data quality audit was conducted for the Vaccine Fund and the results identifies inadequacies in the routine reporting system. The results of a 2001 QUIBE survey supports levels found by the DHS survey results for 1997. The Ministry of Health is implementing improvements in the routine monitoring system. WHO & UNICEF recommend a high quality survey to confirm 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							
1981	46	46	46				
1982	56	56	56				
1983	59	59	59				
1984	49	49	49				
1985	47	47	47				
1986	45	45	45				
1987	52	52	59				
1988	49	49	49				
1989	53	53	51				
1990	59	59	59				
1991	63	63	63				
1992	64	64	64				
1993	66	66	66				
1994	78	78	78				
1995	78	78	77				
1996	78	83				78	78
1997	80	84					
1998	81	99	99				
1999	83	100	100	100	100		
2000	84	99	100	106	106		
2001	86	97	97		97		
2002	87	106	106		106	87	86
2003	87	90	90	90	110		
2004	87	90	90	90	116		
2005	87	90	90	90	107		
2006	87	98	98	98	119		
2007	87	90	90	90	89		
2008	87	90	90	90	113		

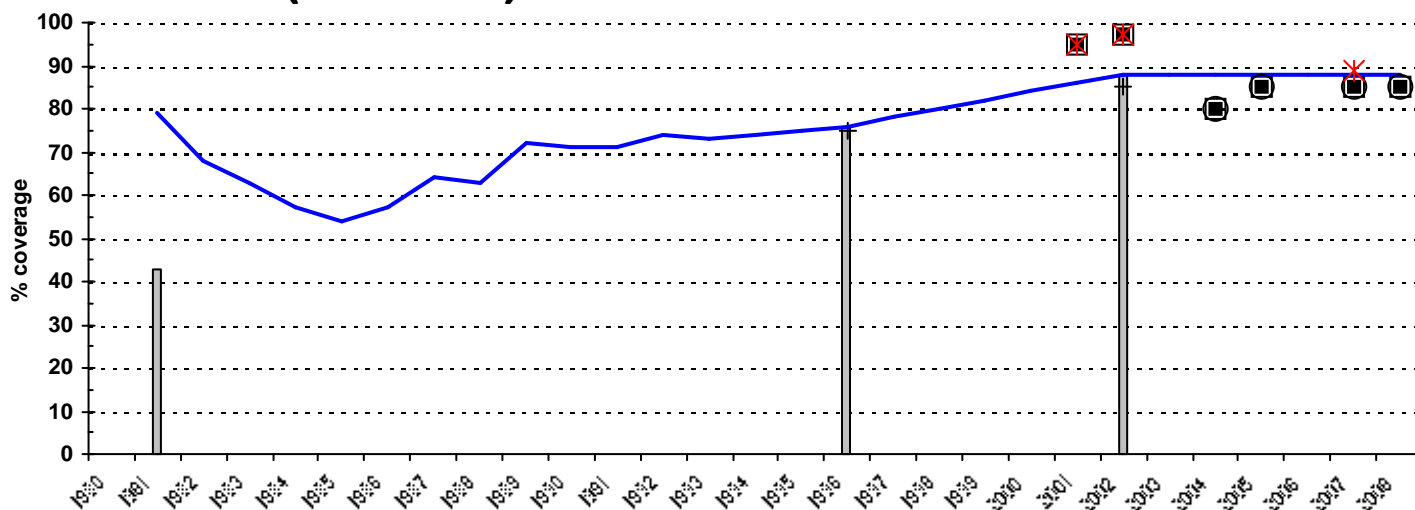
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Mozambique

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 for 2001 onward. The estimates are derived from the WHO/UNICEF estimates of DTP3 and the relationship between the levels of DTP3 coverage and drop-out between DTP1 and DTP3, calibrated to the 1996 and 2002 surveys. (This relationship results from an analysis of 282 surveys conducted in 101 countries which were published between 1980 and 2004.) WHO & UNICEF recommend a high quality survey to confirm 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							
1981	79					43	
1982	68						
1983	63						
1984	57						
1985	54						
1986	57						
1987	64						
1988	63						
1989	72						
1990	71						
1991	71						
1992	74						
1993	73						
1994	74						
1995	75						
1996	76					76	75
1997	78						
1998	80						
1999	82						
2000	84	102	102	102	102		
2001	86	95	95		95		
2002	88	97	97		97	88	85
2003	88	103	103		103		
2004	88	80	80	80	105		
2005	88	85	85	85			
2006	88	109	109		109		
2007	88	85	85	85	89		
2008	88	85	85	85	122		

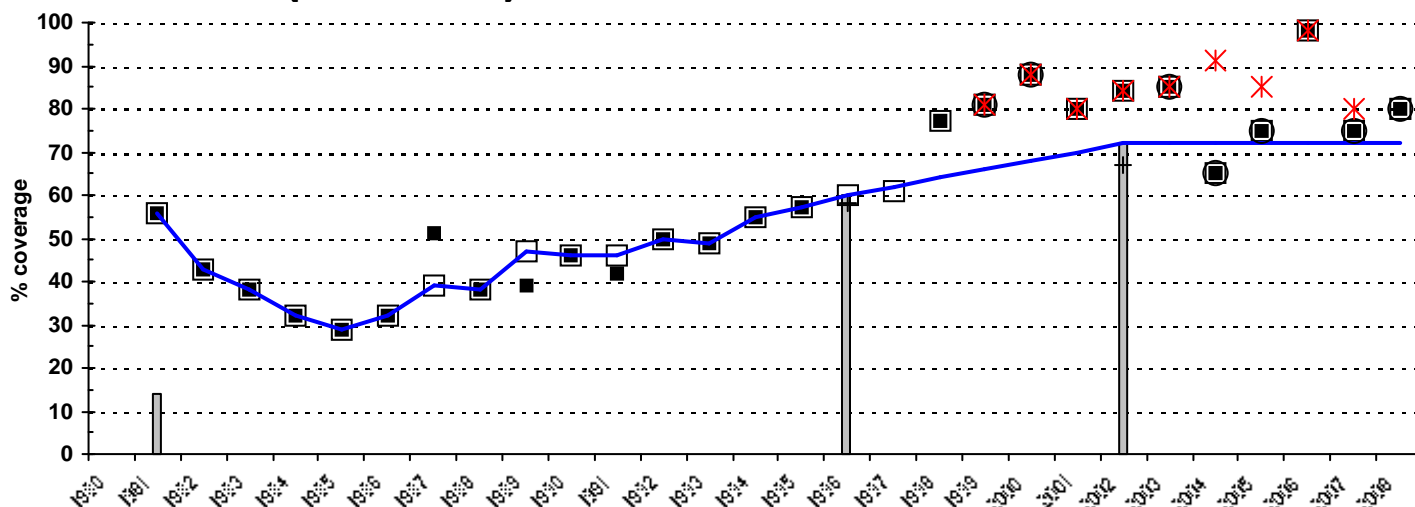
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

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Mozambique

DTP3 (1980-2008)



Description of trend

Estimated immunization coverage levels from 1981 through 1995 are based on reported data, estimates from 1996 onward are based on survey results. In 2002 a data quality audit was conducted for the Vaccine Fund and the results identify inadequacies in the routine reporting system. The results of a 2001 QUIBE survey support levels found by the DHS survey results for 1997. The Ministry of Health is implementing improvements in the routine monitoring system. WHO & UNICEF recommend a high quality survey to confirm 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							
1981	56	56	56			14	
1982	43	43	43				
1983	38	38	38				
1984	32	32	32				
1985	29	29	29				
1986	32	32	32				
1987	39	39	51				
1988	38	38	38				
1989	47	47	39				
1990	46	46	46				
1991	46	46	42				
1992	50	50	50				
1993	49	49	49				
1994	55	55	55				
1995	57	57	57				
1996	60	60				60	58
1997	62	61					
1998	64	77	77				
1999	66	81	81	81	81		
2000	68	88	88	88	88		
2001	70	80	80		80		
2002	72	84	84		84	72	67
2003	72	85	85	85	85		
2004	72	65	65	65	91		
2005	72	75	75	75	85		
2006	72	98	98		98		
2007	72	75	75	75	80		
2008	72	80	80	80	101		

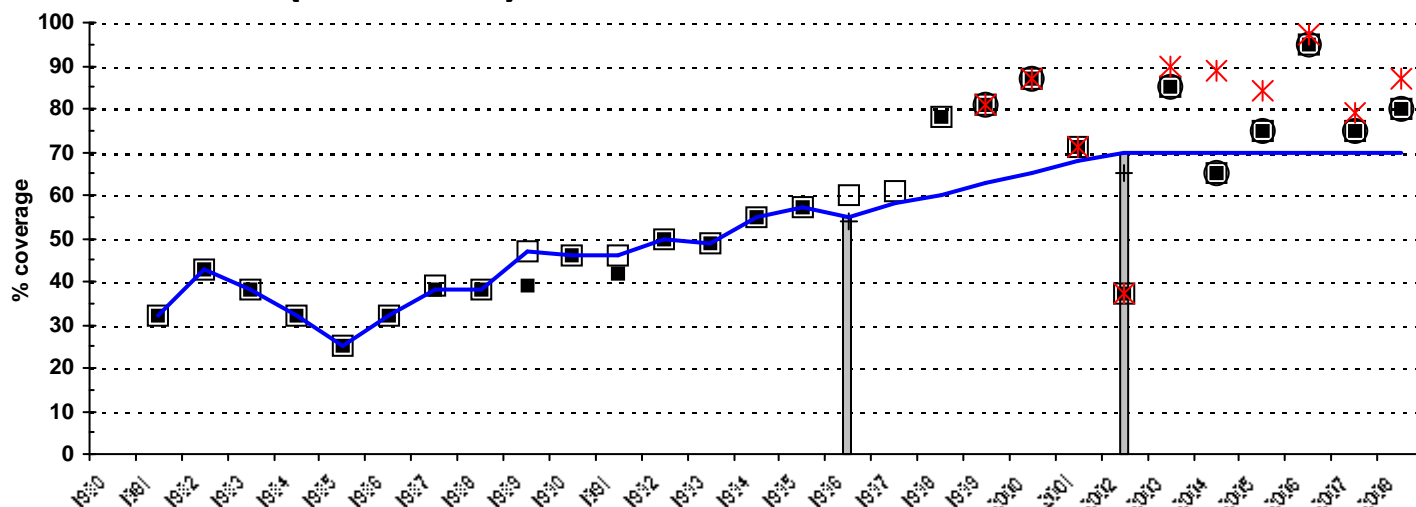
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Mozambique

Pol3 (1980-2008)



Description of trend

Estimated immunization coverage levels from 1981 through 1995 are based on reported data, estimates from 1996 onward are based on survey results. In 2002 a data quality audit was conducted for the Vaccine Fund and the results identify inadequacies in the routine reporting system. Results of a 2001 QUIBE survey support levels found by the DHS survey results for 1997. The Ministry of Health is implementing improvement of the routine monitoring system. WHO & UNICEF recommend a high quality survey to confirm 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							
1981	32	32	32				
1982	43	43	43				
1983	38	38	38				
1984	32	32	32				
1985	25	25	25				
1986	32	32	32				
1987	38	39	38				
1988	38	38	38				
1989	47	47	39				
1990	46	46	46				
1991	46	46	42				
1992	50	50	50				
1993	49	49	49				
1994	55	55	55				
1995	57	57	57				
1996	55	60				55	54
1997	58	61					
1998	60	78	78				
1999	63	81	81	81	81		
2000	65	87	87	87	87		
2001	68	71	71		71		
2002	70	37	37		37	70	65
2003	70	85	85	85	90		
2004	70	65	65	65	89		
2005	70	75	75	75	84		
2006	70	95	95	95	97		
2007	70	75	75	75	79		
2008	70	80	80	80	87		

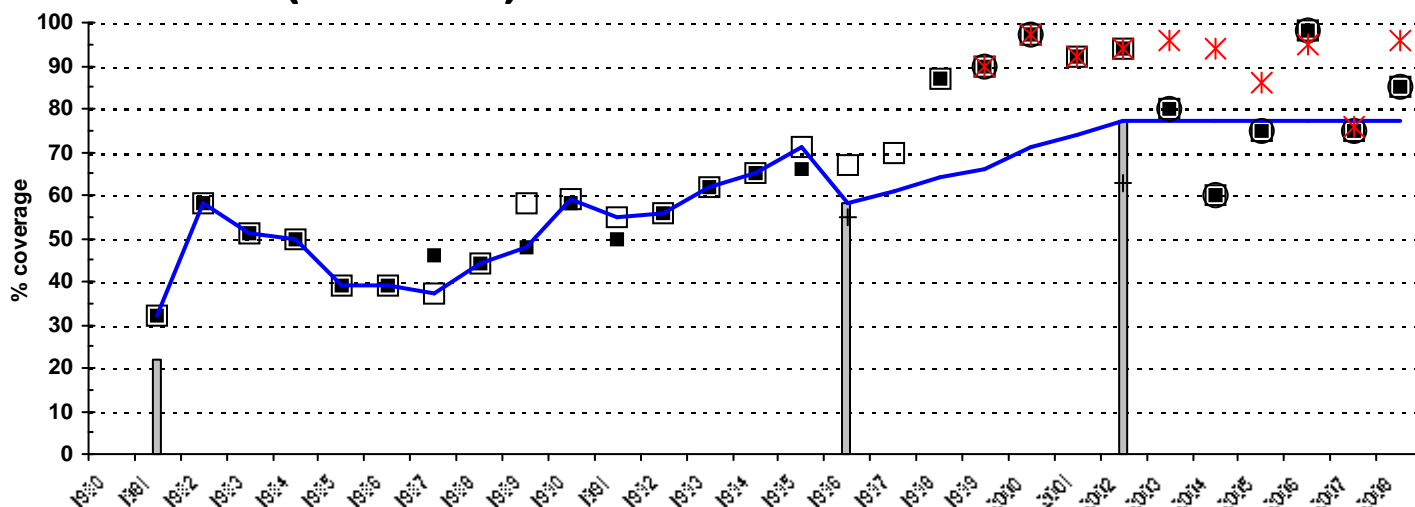
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Mozambique

MCV (1980-2008)



Description of trend

Estimated immunization coverage levels from 1981 through 1995 are based on reported data, estimates from 1996 onward are based on survey results. In 2002 a data quality audit was conducted for the Vaccine Fund and the results identify inadequacies in the routine reporting system. The results of a 2001 QUIBE survey supports levels found by the DHS survey results for 1997. The Ministry of Health is implementing improvements in the routine monitoring system. WHO & UNICEF recommend a high quality survey to confirm 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							
1981	32	32	32			22	
1982	58	58	58				
1983	51	51	51				
1984	50	50	50				
1985	39	39	39				
1986	39	39	39				
1987	37	37	46				
1988	44	44	44				
1989	48	58	48				
1990	59	59	58				
1991	55	55	50				
1992	56	56	56				
1993	62	62	62				
1994	65	65	65				
1995	71	71	66				
1996	58	67				58	55
1997	61	70					
1998	64	87	87				
1999	66	90	90	90	90		
2000	71	97	97	97	97		
2001	74	92	92		92		
2002	77	94	94		94	77	63
2003	77	80	80	80	96		
2004	77	60	60	60	94		
2005	77	75	75	75	86		
2006	77	98	98	98	95		
2007	77	75	75	75	76		
2008	77	85	85	85	96		

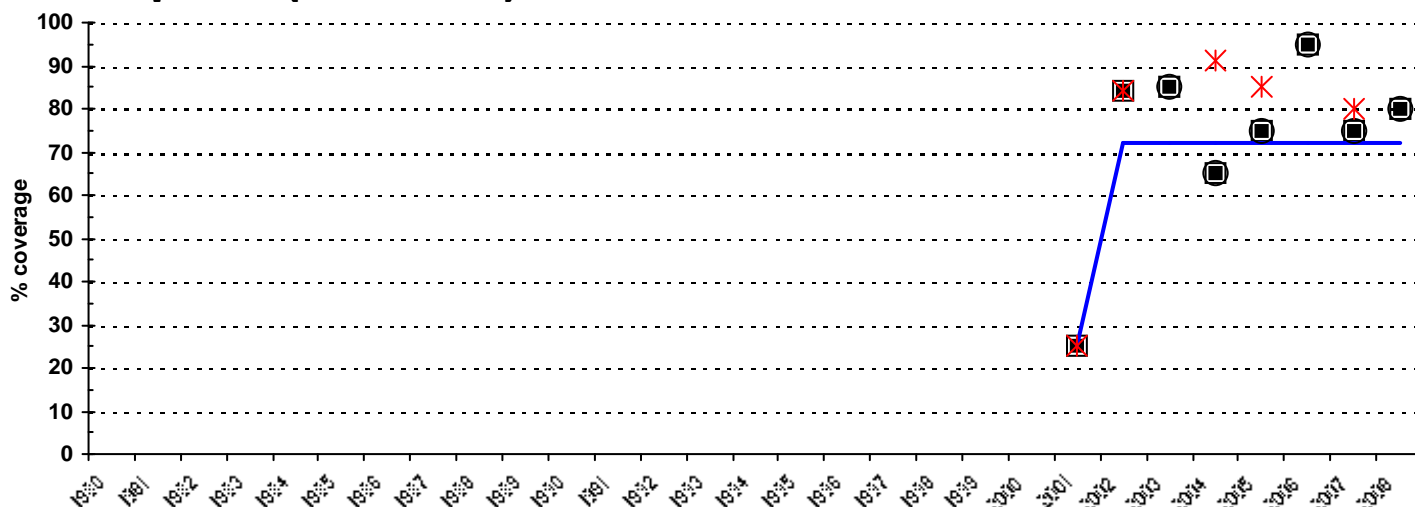
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Mozambique

HepB3 (1980-2008)



Description of trend

The hepatitis B vaccine was introduced in 2001. Tetravalent DTP HepB vaccine was used in 2002 and the estimate of HepB vaccine was assumed to be the same as DTP. In 2002 a data quality audit was conducted for the Vaccine Fund and the results identify inadequacies in the routine reporting system. The results of a 2001 QUIBE survey support levels found by the DHS survey results for 1997. Latest estimates based on DHS 2003 survey. The Ministry of Health is implementing improvements in the routine monitoring system. WHO & UNICEF recommend high quality survey to confirm 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							
1981							
1982							
1983							
1984							
1985							
1986							
1987							
1988							
1989							
1990							
1991							
1992							
1993							
1994							
1995							
1996							
1997							
1998							
1999							
2000							
2001	25	25	25		25		
2002	72	84	84		84		
2003	72	85	85	85			
2004	72	65	65	65	91		
2005	72	75	75	75	85		
2006	72	95	95	95			
2007	72	75	75	75	80		
2008	72	80	80	80	101		

*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.

Mozambique

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
2002 Inquérito Demográfico e de Saúde 2003								
BCG	History	12.6		12-23 m	1933	77.9	2003/2004	
BCG	Card or history	87.4		12-23 m	1933	77.9	2003/2004	
BCG	Card	74.8		12-23 m	1933	77.9	2003/2004	
BCG	C or H <12 month	86		12-23 m	1933	77.9	2003/2004	
DTP1	History	11.5		12-23 m	1933	77.9	2003/2004	
DTP1	Card or history	87.6		12-23 m	1933	77.9	2003/2004	
DTP1	Card	76.1		12-23 m	1933	77.9	2003/2004	
DTP1	C or H <12 month	85.2		12-23 m	1933	77.9	2003/2004	
DTP3	History	5.9		12-23 m	1933	77.9	2003/2004	
DTP3	Card or history	71.6		12-23 m	1933	77.9	2003/2004	
DTP3	Card	65.7		12-23 m	1933	77.9	2003/2004	
DTP3	C or H <12 month	66.6		12-23 m	1933	77.9	2003/2004	
Pol3	History	4		12-23 m	1933	77.9	2003/2004	
Pol3	Card or history	69.6		12-23 m	1933	77.9	2003/2004	
Pol3	Card	65.6		12-23 m	1933	77.9	2003/2004	
Pol3	C or H <12 month	64.6		12-23 m	1933	77.9	2003/2004	
MCV	History	11		12-23 m	1933	77.9	2003/2004	
MCV	Card or history	76.7		12-23 m	1933	77.9	2003/2004	
MCV	Card	65.7		12-23 m	1933	77.9	2003/2004	
MCV	C or H <12 month	63		12-23 m	1933	77.9	2003/2004	

1996 Moçambique Inquérito Demográfico e de Saúde 1997, 1998

BCG	Card or History	78.1		12-23 m	1244	66	1997	
BCG	C or H <12 month	78		12-23 m	1244	66	1997	
BCG	C or H <12 month	67.4		24-35 m	1119	49	1997	
DTP1	Card or History	75.6		12-23 m	1244	66	1997	
DTP1	C or H <12 month	74.9		12-23 m	1244	66	1997	
DTP1	C or H <12 month	64.7		24-35 m	1119	49	1997	
DTP3	Card or History	59.6		12-23 m	1244	66	1997	
DTP3	C or H <12 month	57.7		12-23 m	1244	66	1997	
DTP3	C or H <12 month	49.8		24-35 m	1119	49	1997	
Pol3	Card or History	55.3		12-23 m	1244	66	1997	
Pol3	C or H <12 month	53.5		12-23 m	1244	66	1997	
Pol3	C or H <12 month	43.3		24-35 m	1119	49	1997	
MCV	Card or History	57.5		12-23 m	1244	66	1997	
MCV	C or H <12 month	54.7		12-23 m	1244	66	1997	
MCV	C or H <12 month	46.2		24-35 m	1119	49	1997	

1981 Evaluation of Expanded Programme of Immunization in Mozambique, 1989

DTP1	Card or History	43		12-23 m			1982	
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1981 Expanded Programme of Immunization in Mozambique 1988

DTP3	Card or History	14		12-23 m			1982	
Pol3	Card or History			12-23 m			1982	
MCV	Card or History	22		12-23 m			1982	

Mozambique

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.

Mozambique

Year	PAB coverage estimate (%)
1980	
1981	
1982	36
1983	42
1984	47
1985	49
1986	33
1987	33
1988	33
1989	41
1990	37
1991	46
1992	47
1993	44
1994	41
1995	53
1996	54
1997	58
1998	61
1999	69
2000	75
2001	68
2002	64
2003	60
2004	62
2005	77
2006	81
2007	82
2008	83