

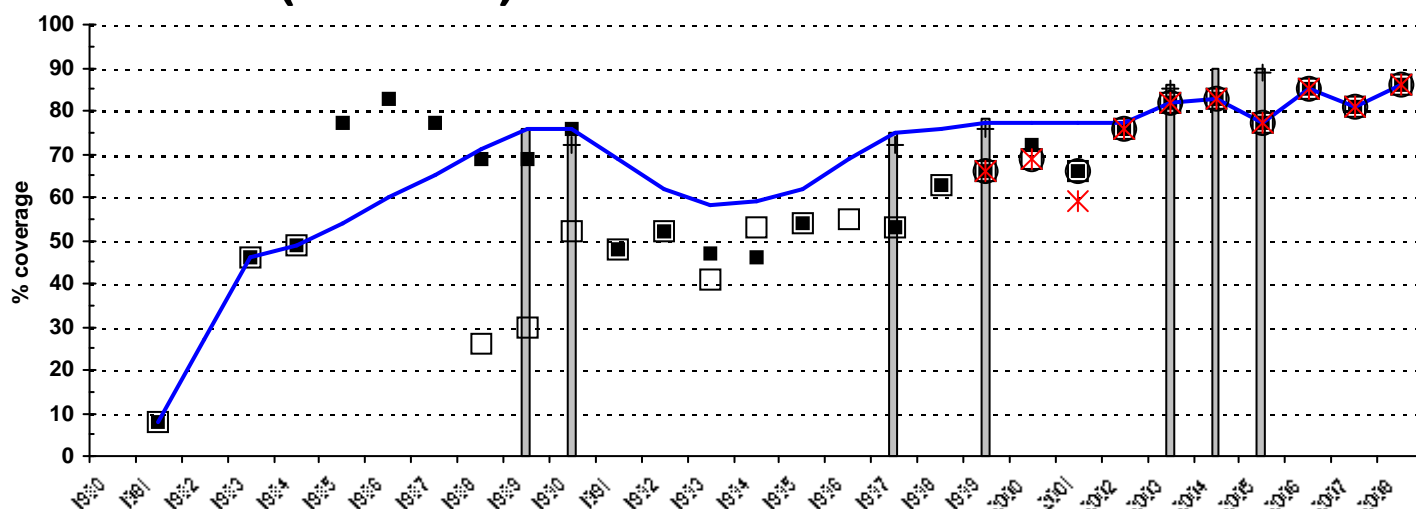
**WHO/UNICEF
Review of National Immunization Coverage
1980-2008**

Cameroon

July, 2009

Cameroon

BCG (1980-2008)



Description of trend

Between 1980 and 1990 coverage increases steeply, partly due to campaigns in the second half of the 1980s to reach the UCI goal. Survey data for two consecutive years report a coverage level of 76% in 1989 and 1990 (Rapport sur les Enquêtes de Couverture Vaccinale au Cameroun 1990; DHS 1991). Due to a shortage of vaccines in 1990 as well as a rupture in the cold chain coverage drops to around 60% between 1990 and 1995. Underreporting of administrative data are partly due to the economic crisis during those years. With economic stabilization in 1997 coverage levels increase again (DHS 1998). Survey data since 1997 confirms administrative reports. Decline in reported data in 2001 reflect 84% completeness of reporting.

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	8	8	8				
1981	8	8	8				
1982	27						
1983	46	46	46				
1984	49	49	49				
1985	54		77				
1986	60		83				
1987	65		77				
1988	71	26	69				
1989	76	30	69			76	
1990	76	52	76			76	72
1991	69	48	48				
1992	62	52	52				
1993	58	41	47				
1994	59	53	46				
1995	62	54	54				
1996	69	55					
1997	75	53	53			75	72
1998	76	63	63				
1999	77	66	66	66	66	78	76
2000	77	69	72	69	69		
2001	77	66	66	66	59		
2002	77	76	76	76	76		
2003	82	82	82	82	82	86	85
2004	83	83	83	83	83	90	
2005	77	77	77	77	77	90	89
2006	85	85	85	85	85		
2007	81	81	81	81	81		
2008	86	86	86	86	86		

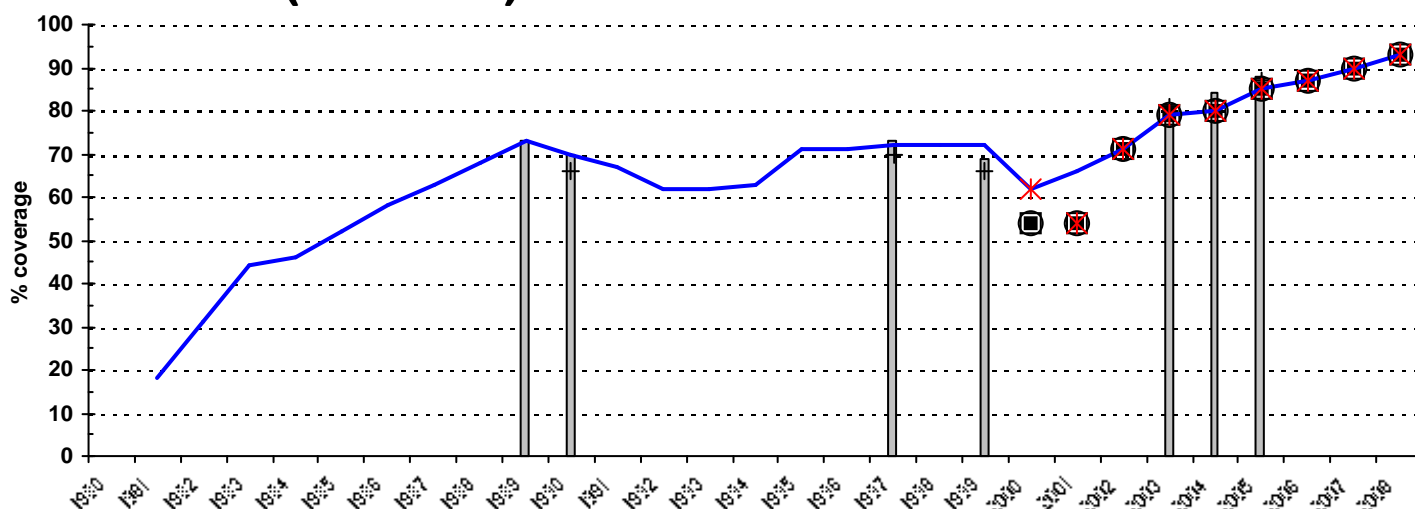
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Cameroon

DTP1 (1980-2008)



Description of trend

WHO and UNICEF began requesting data on DTP1 coverage in 2001 and has received national reports reflecting DTP1 coverage from 2000 onward. The DTP1 estimates from 2002 onward are based on these reports and confirmed by survey. For years prior to 2002 the estimates derived from the WHO/UNICEF estimates of DTP3 and the relationship between the levels of DTP3 coverage and the drop-out between DTF and DTP3. This relationship results from an analysis of 282 surveys conducted in 101 countries which were published between 1980 and 2000. Survey data since 1997 confirms administrative reports. Decline in reported data in 2001 reflects 84% completeness of reporting.

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	18						
1982	31						
1983	44						
1984	46						
1985	52						
1986	58						
1987	63						
1988	68						
1989	73					73	
1990	70					70	66
1991	67						
1992	62						
1993	62						
1994	63						
1995	71						
1996	71						
1997	72					73	70
1998	72						
1999	72					69	66
2000	62	54	54	54	62		
2001	66	54	54	54	54		
2002	71	71	71	71	71		
2003	79	79	79	79	79	81	81
2004	80	80	80	80	80	84	
2005	85	85	85	85	85	88	87
2006	87	87	87	87	87		
2007	90	90	90	90	90		
2008	93	93	93	93	93		

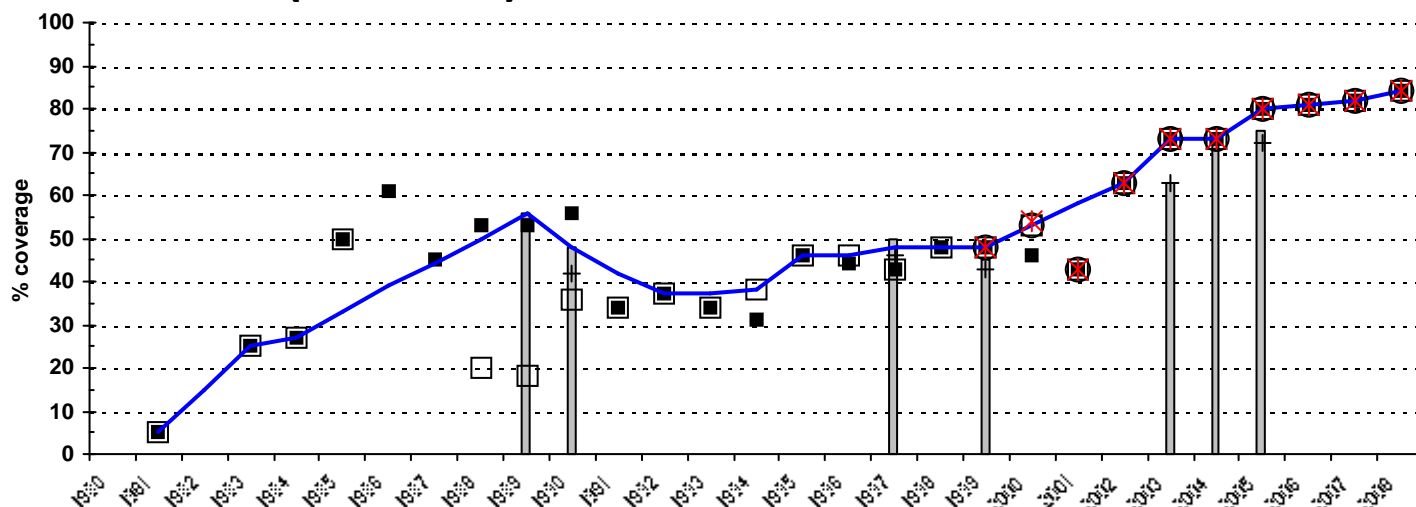
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Cameroon

DTP3 (1980-2008)



Description of trend

Coverage increases steeply between 1980 and 1990 due to campaigns in the second half of the 1980s to reach the UCI-goal. Survey data reach a peak in coverage in 1989 (Rapport sur les Enquêtes de Couverture Vaccinale au Cameroun 1990), followed by a slight decline in 1990. Due to a shortage of vaccines, a rupture in the cold chain as well as an economic crisis coverage drops to around 37% between 1990 and 1995. Coverage levels increase again in the second half of the 1990s, which can be attributed to a stabilizing economy and a decentralization of the health system which improves the reporting system. Survey data since 1997 confirms administrative reports. Decline in reported data in 2001 reflects 84% completeness of reporting.

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	5	5	5				
1982	15						
1983	25	25	25				
1984	27	27	27				
1985	33	50	50				
1986	39		61				
1987	44		45				
1988	50	20	53				
1989	56	18	53			56	
1990	48	36	56			48	42
1991	42	34	34				
1992	37	37	37				
1993	37	34	34				
1994	38	38	31				
1995	46	46	46				
1996	46	46	44				
1997	48	43	43			50	46
1998	48	48	48				
1999	48	48	48	48	48	45	43
2000	53	53	46	53	54		
2001	58	43	43	43	43		
2002	63	63	63	63	63		
2003	73	73	73	73	73	63	63
2004	73	73	73	73	73	74	
2005	80	80	80	80	80	75	72
2006	81	81	81	81	81		
2007	82	82	82	82	82		
2008	84	84	84	84	84		

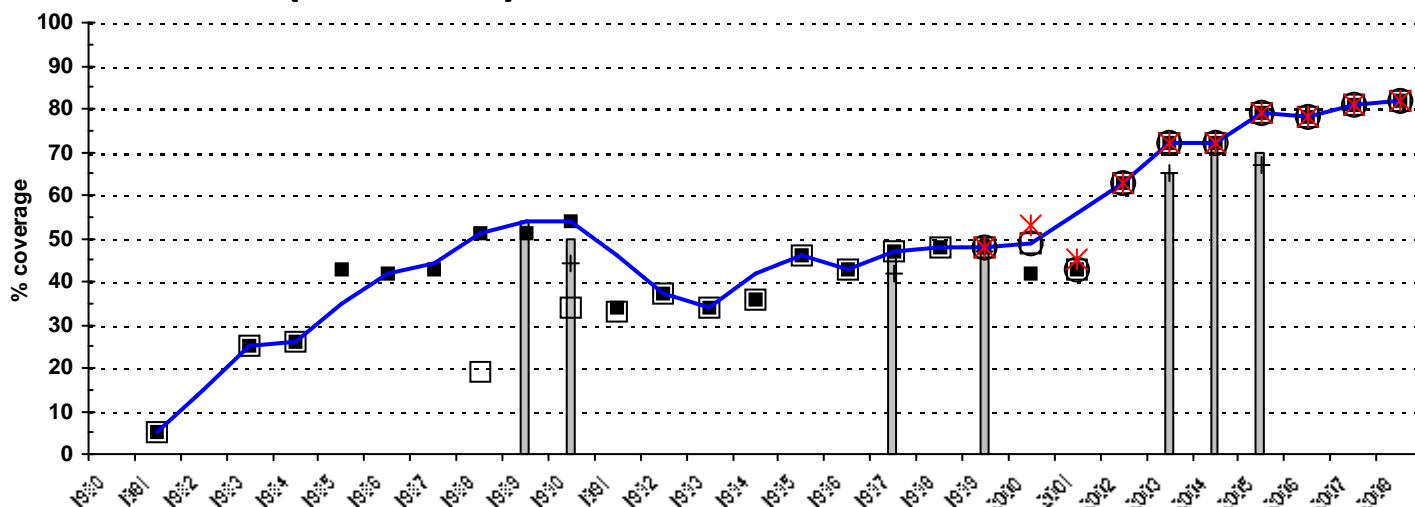
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Cameroon

Pol3 (1980-2008)



Description of trend

Coverage increases steeply between 1980 and 1990 due to campaigns in the second half of the 1980s to reach the UCI goal. Survey data for consecutive years report a coverage level of 54% in 1989 and 1990 (Rapport sur les Enquêtes de Couverture Vaccinale au Cameroun 1990; [1991]). Due to a shortage of vaccines, a rupture in the cold chain as well as an economic crisis coverage drops to around 37% between 1990 and 1995. Coverage levels increase again in the second half of the 1990s, which can be attributed to a stabilizing economy and a decentralization of the health system which also improves the reporting system. Survey data since 1997 confirms administrative reports. Decline in reported data in 2000 reflects 84% completeness of reporting.

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	5	5	5				
1982	15						
1983	25	25	25				
1984	26	26	26				
1985	35		43				
1986	42		42				
1987	44		43				
1988	51	19	51				
1989	54		51			54	
1990	54	34	54			50	44
1991	46	33	34				
1992	37	37	37				
1993	34	34	34				
1994	42	36	36				
1995	46	46	46				
1996	43	43	43				
1997	47	47	47			47	42
1998	48	48	48				
1999	48	48	48	48	48	50	47
2000	49	49	42	49	53		
2001	56	43	43	43	45		
2002	63	63	63	63	63		
2003	72	72	72	72	72	65	65
2004	72	72	72	72	72	73	
2005	79	79	79	79	79	70	67
2006	78	78	78	78	78		
2007	81	81	81	81	81		
2008	82	82	82	82	82		

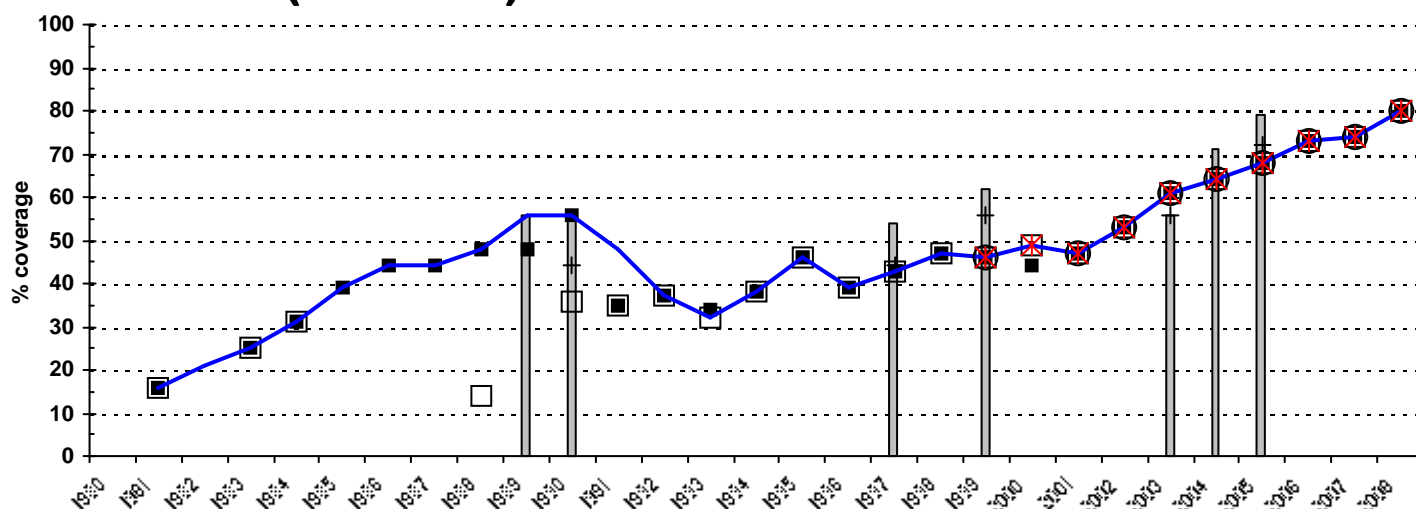
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Cameroon

MCV (1980-2008)



Description of trend

Coverage increases steeply between 1980 and 1990 due to campaigns in the second half of the 1980s to reach the UCI goal. Survey data for consecutive years report a coverage level of 56% in 1989 and 1990 (Rapport sur les Enquêtes de Couverture Vaccinale au Cameroun 1990; 1991). Due to a shortage of vaccines, a rupture in the cold chain as well as an economic crisis coverage drops to around 40% between 1990 and 1995. Coverage levels increase again in the second half of the 1990s, which can be attributed to a stabilizing economy and a decentralization of the health system. Survey data since 1997 confirms administrative reports. Decline in reported data in 2001 reflects 84% completeness of reporting. 2005 survey results may contain vaccinations administered during campaigns.

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	16	16	16				
1981	21						
1982	25						
1983	31						
1984	39						
1985	44						
1986	44						
1987	48						
1988	56	14	48				
1989	56	36	56			56	
1990	48	35	35			56	44
1991	37	37	37				
1992	32	32	34				
1993	38	38	38				
1994	46	46	46				
1995	39	39	39				
1996	43	43	43			54	44
1997	47	47	47				
1998	46	46	46	46	46	62	56
1999	49	49	44		49		
2000	47	47	47	47	47		
2001	53	53	53	53	53		
2002	61	61	61	61	61	56	56
2003	64	64	64	64	64	71	
2004	68	68	68	68	68	79	72
2005	73	73	73	73	73		
2006	74	74	74	74	74		
2007	80	80	80	80	80		
2008	80	80	80	80	80		

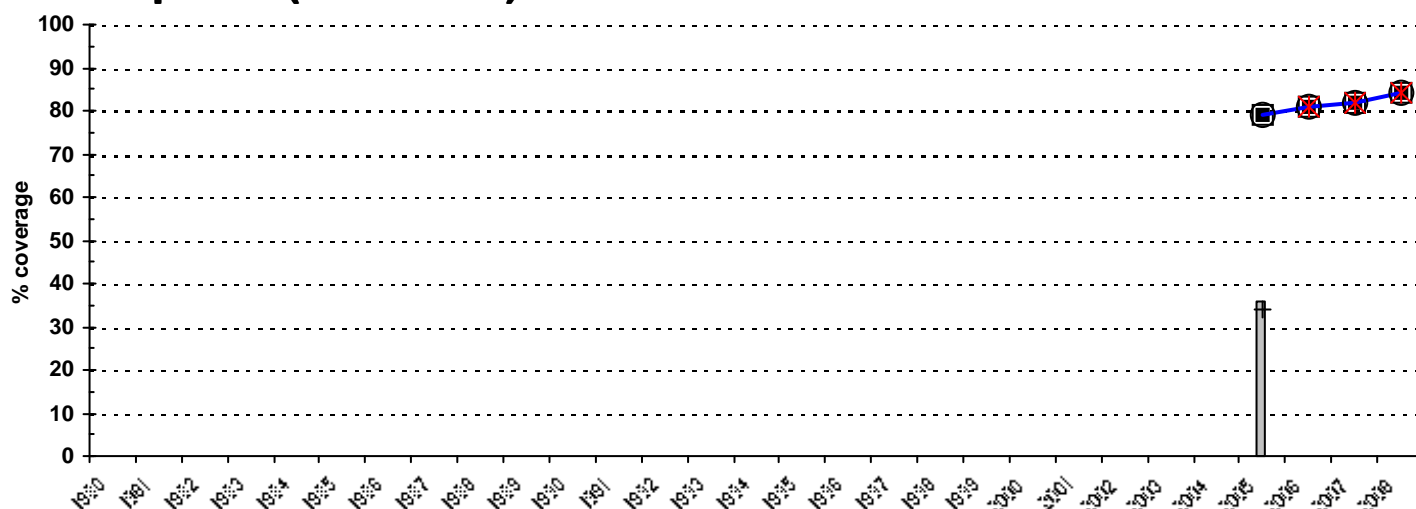
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Cameroon

HepB3 (1980-2008)



Description of trend

Hepatitis B vaccine was introduced in March 2005. 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							
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	79	79	79	79		36	34
2006	81	81	81	81	81		
2007	82	82	82	82	82		
2008	84	84	84	84	84		

*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.

Cameroon

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
2005 Cameroun, Enquête par grappes à indicateurs multiples 2006								
BCG	Card or History	90		12-23 m	1320	66.3	2006	
BCG	C or H <12 month	88.9		12-23 m	1320	66.3	2006	
DTP1	Card or History	88.3		12-23 m	1320	66.3	2006	
DTP1	C or H <12 month	87.1		12-23 m	1320	66.3	2006	
DTP3	Card or History	75.2		12-23 m	1320	66.3	2006	
DTP3	C or H <12 month	72.3		12-23 m	1320	66.3	2006	
Pol3	Card or History	69.5		12-23 m	1320	66.3	2006	
Pol3	C or H <12 month	67.4		12-23 m	1320	66.3	2006	
MCV	Card or History	78.8		12-23 m	1320	66.3	2006	
MCV	C or H <12 month	72.5		12-23 m	1320	66.3	2006	
HepB	Card or History	35.5		12-23 m	1320	66.3	2006	
HepB	C or H <12 month	34.4		12-23 m	1320	66.3	2006	
PAB	Card or History	73.1		CBAW	2834		2006	
2004 Enquête nationale de couverture vaccinale des enfants de 12 à 23 mois au Cameroun								
BCG	Card or History	89.5	2040	12-23 m			2005	
DTP1	Card or History	84.4	2040	12-23 m			2005	
DTP3	Card or History	74.5	2040	12-23 m			2005	
Pol3	Card or History	72.8	2040	12-23 m			2005	
MCV	Card or History	70.7	2040	12-23 m			2005	
2003 L'Enquête Démographique et de Santé au Cameroun								
BCG	History	30.2		12-23 m	1546	57.3	2004	
BCG	Card or history	85.7		12-23 m	1546	57.3	2004	
BCG	Card	55.5		12-23 m	1546	57.3	2004	
BCG	C or H <12 month	84.9		12-23 m	1546	57.3	2004	
DTP1	History	81.1		12-23 m	1546	57.3	2004	
DTP1	Card or history	81.1		12-23 m	1546	57.3	2004	
DTP1	Card	55.6		12-23 m	1546	57.3	2004	
DTP1	C or H <12 month	81.1		12-23 m	1546	57.3	2004	
DTP3	History	62.7		12-23 m	1546	57.3	2004	
DTP3	Card or history	62.7		12-23 m	1546	57.3	2004	
DTP3	Card	49.8		12-23 m	1546	57.3	2004	
DTP3	C or H <12 month	62.7		12-23 m	1546	57.3	2004	
Pol3	History	65.1		12-23 m	1546	57.3	2004	
Pol3	Card or history	65.1		12-23 m	1546	57.3	2004	
Pol3	Card	50.3		12-23 m	1546	57.3	2004	
Pol3	C or H <12 month	65.1		12-23 m	1546	57.3	2004	
MCV	History	20.7		12-23 m	1546	57.3	2004	
MCV	Card or history	55.7		12-23 m	1546	57.3	2004	
MCV	Card	44.1		12-23 m	1546	57.3	2004	
MCV	C or H <12 month	55.7		12-23 m	1546	57.3	2004	
1999 Enquête à Indicateurs Multiples (MICS) au Cameroun 2000, 2001								
BCG	Card or History	78		12-23 m	661	49	2000	different table in survey report with slightly different numbers
BCG	C or H <12 month	75.7		12-23 m	661	49	2000	
DTP1	Card or History	69.4		12-23 m	661	49	2000	different table in survey report with slightly different numbers
DTP1	C or H <12 month	66.2		12-23 m	661	49	2000	
DTP3	Card or History	44.8		12-23 m	661	49	2000	different table in survey report with slightly different numbers
DTP3	C or H <12 month	42.6		12-23 m	661	49	2000	

Cameroon

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
Pol3	Card or History	49.7		12-23 m	661	49	2000	different table in survey report with slightly different numbers
Pol3	C or H <12 month	47.2		12-23 m	661	49	2000	
MCV	Card or History	61.9		12-23 m	661	49	2000	different table in survey report with slightly different numbers
MCV	C or H <12 month	56.4		12-23 m	661	49	2000	
PAB	Card or History	66.1		Women 15-49			2000	

1997 *Enquête Démographique et de Santé Cameroun 1998, 1999*

BCG	Card or History	74.8		12-23 m	748	54.9	1998	
BCG	C or H <12 month	72.3		12-23 m	748	54.9	1998	
DTP1	Card or History	73.3		12-23 m	748	54.9	1998	
DTP1	C or H <12 month	70.1		12-23 m	748	54.9	1998	
DTP3	Card or History	50.5		12-23 m	748	54.9	1998	
DTP3	C or H <12 month	45.8		12-23 m	748	54.9	1998	
Pol3	Card or History	47.1		12-23 m	748	54.9	1998	
Pol3	C or H <12 month	42.4		12-23 m	748	54.9	1998	
MCV	Card or History	54.2		12-23 m	748	54.9	1998	
MCV	C or H <12 month	43.6		12-23 m	748	54.9	1998	

1990 *Enquête Démographique et de Santé Cameroun 1991, 1992*

BCG	Card or History	75.5		12-23 m	663	52.1	1991	
BCG	C or H <12 month	71.5		12-23 m	663	52.1	1991	
BCG	C or H <12 month	65.7		24-35 m	605	40.8	1991	
BCG	C or H <12 month	62.6		36-47 m	642	37	1991	
BCG	C or H <12 month	65.7		48-59 m	582	32.8	1991	
DTP1	Card or History	70.1		12-23 m	663	52.1	1991	
DTP1	C or H <12 month	66.5		12-23 m	663	52.1	1991	
DTP1	C or H <12 month	60		24-35 m	605	40.8	1991	
DTP1	C or H <12 month	54.9		36-47 m	642	37	1991	
DTP1	C or H <12 month	58.9		48-59 m	582	32.8	1991	
DTP3	Card or History	48		12-23 m	663	52.1	1991	
DTP3	C or H <12 month	42.5		12-23 m	663	52.1	1991	
DTP3	C or H <12 month	35.6		24-35 m	605	40.8	1991	
DTP3	C or H <12 month	35		36-47 m	642	37	1991	
DTP3	C or H <12 month	35.3		48-59 m	582	32.8	1991	
Pol3	Card or History	49.7		12-23 m	663	52.1	1991	
Pol3	C or H <12 month	44.5		12-23 m	663	52.1	1991	
Pol3	C or H <12 month	36.5		24-35 m	605	40.8	1991	
Pol3	C or H <12 month	35.7		36-47 m	642	37	1991	
Pol3	C or H <12 month	37.4		48-59 m	582	32.8	1991	
MCV	Card or History	56		12-23 m	663	52.1	1991	
MCV	C or H <12 month	44.2		12-23 m	663	52.1	1991	
MCV	C or H <12 month	37.8		24-35 m	605	40.8	1991	
MCV	C or H <12 month	33.4		36-47 m	642	37	1991	
MCV	C or H <12 month	36.9		48-59 m	582	32.8	1991	

1989 *Rapport sur les Enquêtes de Couverture Vaccinale Réalisées en Novembre-Décembre 1990 au Cameroun, 1991*

BCG	Card or History	76		12-23 m	2539		1990	
DTP1	Card or History	73		12-23 m	2539		1990	
DTP3	Card or History	56		12-23 m	2539		1990	
Pol3	Card or History	54		12-23 m	2539		1990	
MCV	Card or History	56		12-23 m	2539		1990	

Cameroon

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.

Cameroon

Year	PAB coverage estimate (%)
1980	
1981	
1982	
1983	
1984	6
1985	10
1986	13
1987	17
1988	20
1989	20
1990	19
1991	19
1992	26
1993	18
1994	18
1995	20
1996	21
1997	40
1998	47
1999	55
2000	54
2001	52
2002	65
2003	71
2004	73
2005	76
2006	81
2007	83
2008	86