

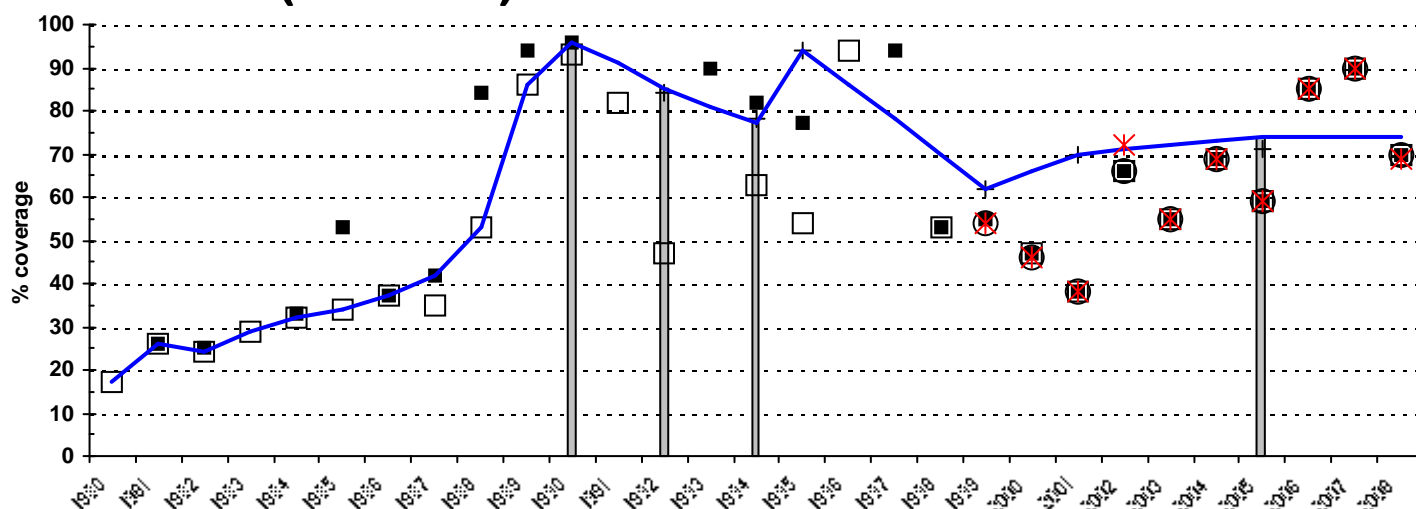
**WHO/UNICEF
Review of National Immunization Coverage
1980-2008**

Central African Republic

July, 2009

Central African Republic

BCG (1980-2008)



Description of trend

Estimates from 1980-1990 are based on nationally reported data. Estimates from 1990 onward are based on survey results. Reported data in 2006 and 2007 include doses given during campaigns. Records of immunization prior to 2003 were compromised during the 2002-2003 civil unrest. CAR has provided updated data from 2003 onward.

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	17	17					
1981	26	26	26				
1982	24	24	25				
1983	29	29					
1984	32	32	33				
1985	34	34	53				
1986	37	37	37				
1987	42	35	42				
1988	53	53	84				
1989	86	86	94				
1990	96	93	96			96	
1991	91	82					
1992	85	47				85	84
1993	81		90				
1994	77	63	82			77	78
1995	94	54	77				94
1996	86	94					
1997	78		94				
1998	70	53	53				
1999	62		55	54	54		62
2000	66	47	47	46	46		
2001	70	38	38	38	38		70
2002	71	66	66	66	72		
2003	72	55	55	55	55		
2004	73	69	69	69	69		
2005	74	59	59	59	59	74	71
2006	74	85	85	85	85		
2007	74	90	90	90	90		
2008	74	70	70	70	69		

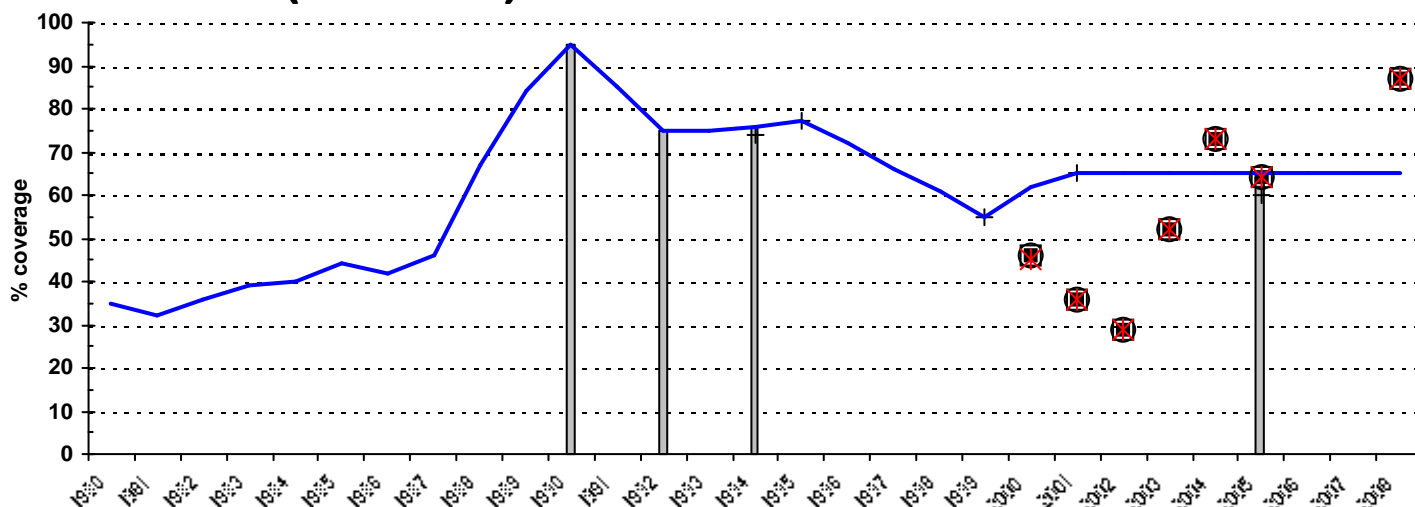
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Central African Republic

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 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. This relationship results from an analysis of 282 surveys conducted in 101 countries which were published between 1980 and 2004. Estimates from 1990 onward are based on survey results. WHO/UNICEF recommend improving routine monitoring systems. Reported data for 2006 and 2007 include doses given during campaigns. Records of immunization prior to 2003 were compromised during the 2002-2003 civil unrest. CAR has provided updated data from 2003 onward.

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	35						
1981	32						
1982	36						
1983	39						
1984	40						
1985	44						
1986	42						
1987	46						
1988	67						
1989	84						
1990	95					95	
1991	85						
1992	75					75	
1993	75						
1994	76					76	74
1995	77						77
1996	72						
1997	66						
1998	61						
1999	55						55
2000	62	46	46	46	45		
2001	65	36	36	36	36		65
2002	65	29	29	29	29		
2003	65	52	52	52	52		
2004	65	73	73	73	73		
2005	65	64	64	64	64	64	60
2006	65	105	105	105	105		
2007	65	102	102	102	102		
2008	65	87	87	87	87		

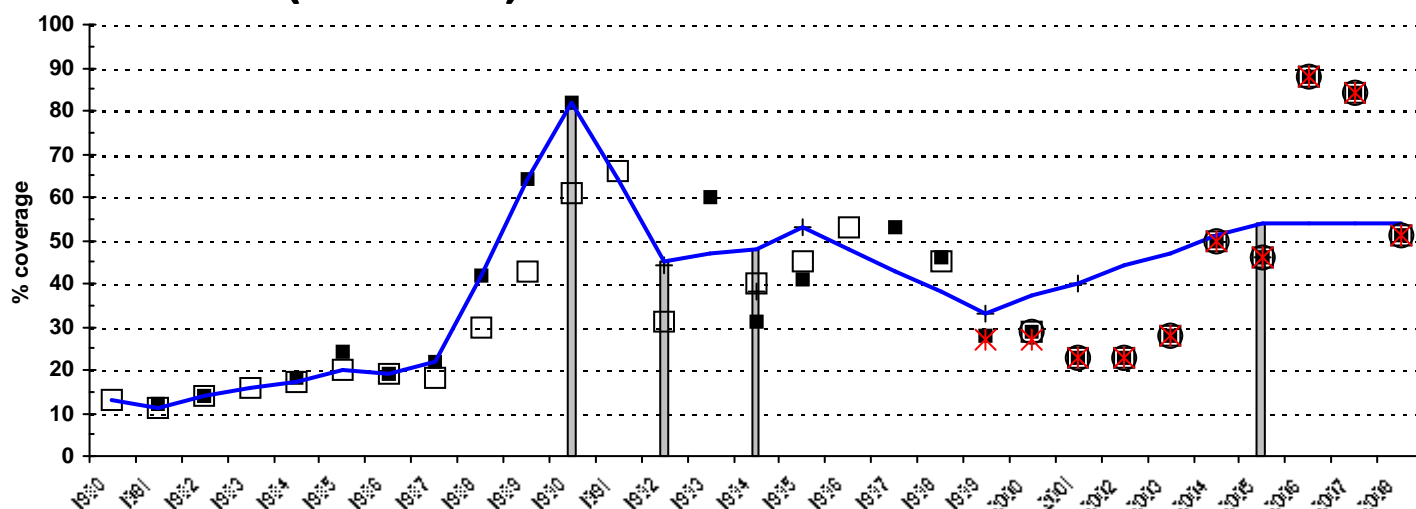
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

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Central African Republic

DTP3 (1980-2008)



Description of trend

Estimates from 1980-1990 are based on nationally reported data. Estimates from 1990 onward are based on survey results. WHO/UNICEF recommend improving routine monitoring system. Reported data for 2006 and 2007 include doses given during campaigns. Records of immunization prior to 2003 were compromised during the 2002-2003 civil unrest. CAR has provided updated data from 2003 onward.

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	13	13					
1981	11	11	12				
1982	14	14	14				
1983	16	16					
1984	17	17	18				
1985	20	20	24				
1986	19	19	19				
1987	22	18	22				
1988	42	30	42				
1989	64	43	64				
1990	82	61	82			82	
1991	64	66					
1992	45	31				45	44
1993	47		60				
1994	48	40	31			48	38
1995	53	45	41				53
1996	48	53					
1997	43		53				
1998	38	45	46				
1999	33		28		27		33
2000	37	29	29	29	27		
2001	40	23	23	23	23		40
2002	44	23	23	23	23		
2003	47	28	28	28	28		
2004	51	50	50	50	50		
2005	54	46	46	46	46	54	46
2006	54	88	88	88	88		
2007	54	84	84	84	84		
2008	54	51	51	51	51		

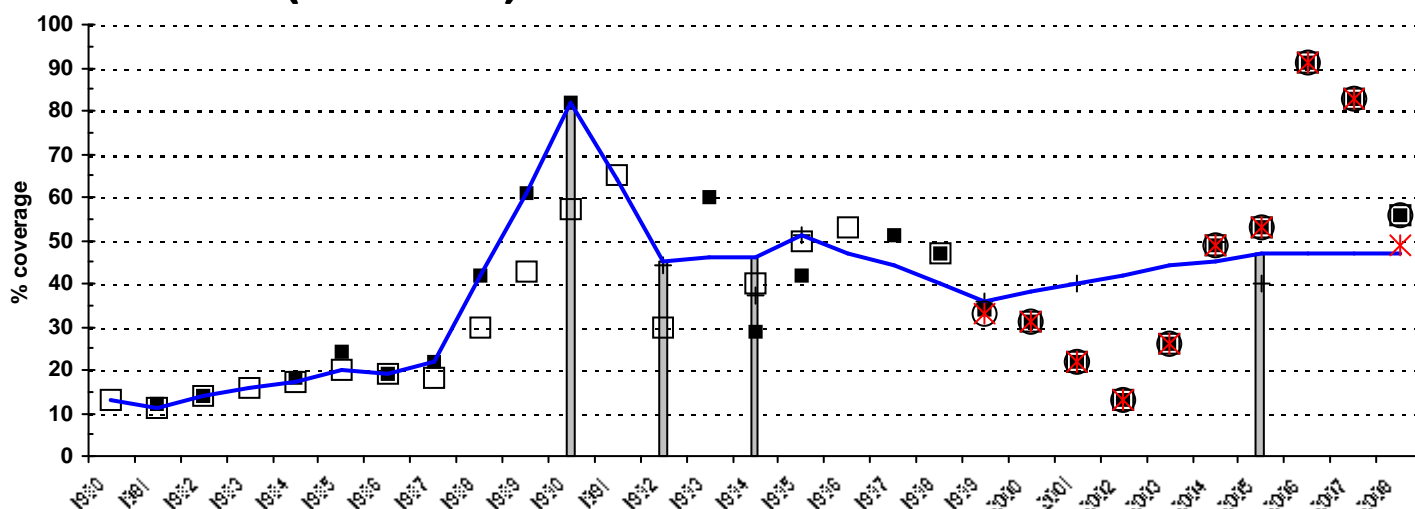
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

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Central African Republic

Pol3 (1980-2008)



Description of trend

Estimates from 1980-1990 are based on nationally reported data. Estimates from 1990 onward are based on survey results. WHO/UNICEF recommend improving routine monitoring systems. Reported data for 2006 and 2007 include doses given during campaigns. Records of immunization prior to 2003 were compromised during the 2002-2003 civil unrest. CAR has provided updated data from 2003 onward.

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	13	13					
1981	11	11	12				
1982	14	14	14				
1983	16	16	18				
1984	17	17	20				
1985	20	20	24				
1986	19	19	19				
1987	22	18	22				
1988	42	30	42				
1989	61	43	61				
1990	82	57	82			82	
1991	64	65					
1992	45	30				45	44
1993	46		60				
1994	46	40	29			46	37
1995	51	50	42				51
1996	47	53					
1997	44		51				
1998	40	47	47				
1999	36		34	33	33		36
2000	38	31	31	31	31		
2001	40	22	22	22	22		40
2002	42	13	13	13	13		
2003	44	26	26	26	26		
2004	45	49	49	49	49		
2005	47	53	53	53	53	47	40
2006	47	91	91	91	91		
2007	47	83	83	83	83		
2008	47	56	56	56	49		

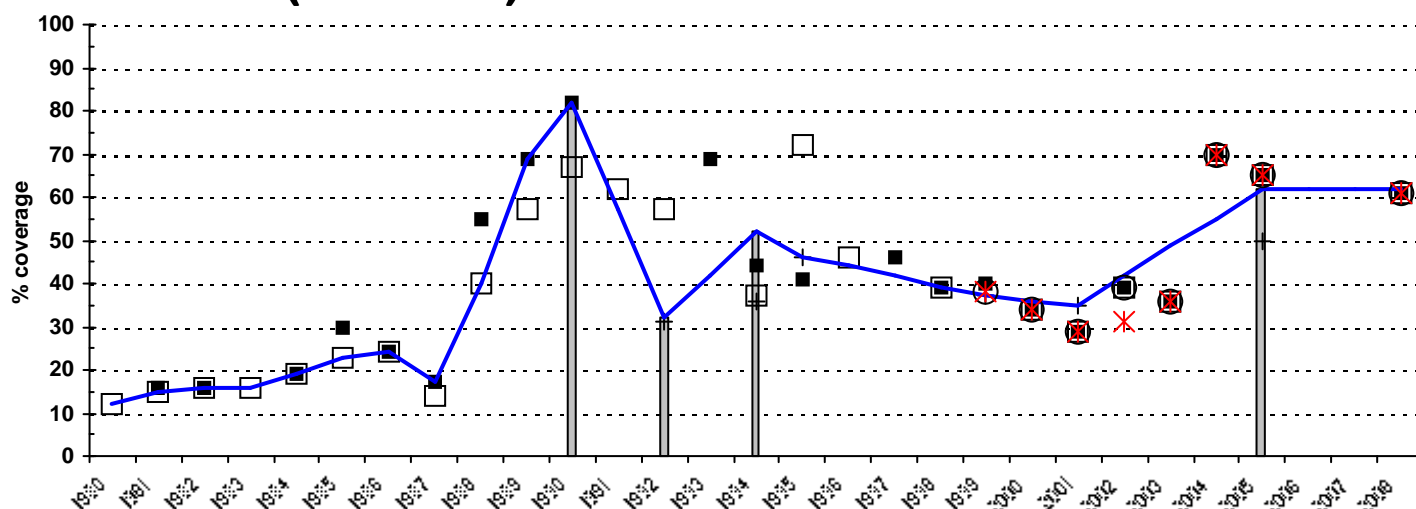
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

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

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Central African Republic

MCV (1980-2008)



Description of trend

Estimates from 1980-1990 are based on nationally reported data. Estimates from 1990 onward are based on survey results. WHO/UNICEF recommend improving routine monitoring systems. Reported data for 2006 and 2007 include doses given during campaigns. Records of immunization prior to 2003 were compromised during the 2002-2003 civil unrest. CAR has provided updated data from 2003 onward.

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	12	12					
1981	15	15	16				
1982	16	16	16				
1983	16	16					
1984	19	19	19				
1985	23	23	30				
1986	24	24	24				
1987	17	14	17				
1988	40	40	55				
1989	69	57	69				
1990	82	67	82			82	
1991	57	62					
1992	32	57				32	31
1993	42		69				
1994	52	37	44			52	36
1995	46	72	41				46
1996	44	46					
1997	42		46				
1998	39	39	39				
1999	37		40	38	38		37
2000	36	34	34	34	34		
2001	35	29	29	29	29		35
2002	42	39	39	39	31		
2003	49	36	36	36	36		
2004	55	70	70	70	70		
2005	62	65	65	65	65	62	50
2006	62	108	108	108	108		
2007	62	104	104	104	104		
2008	62	61	61	61	61		

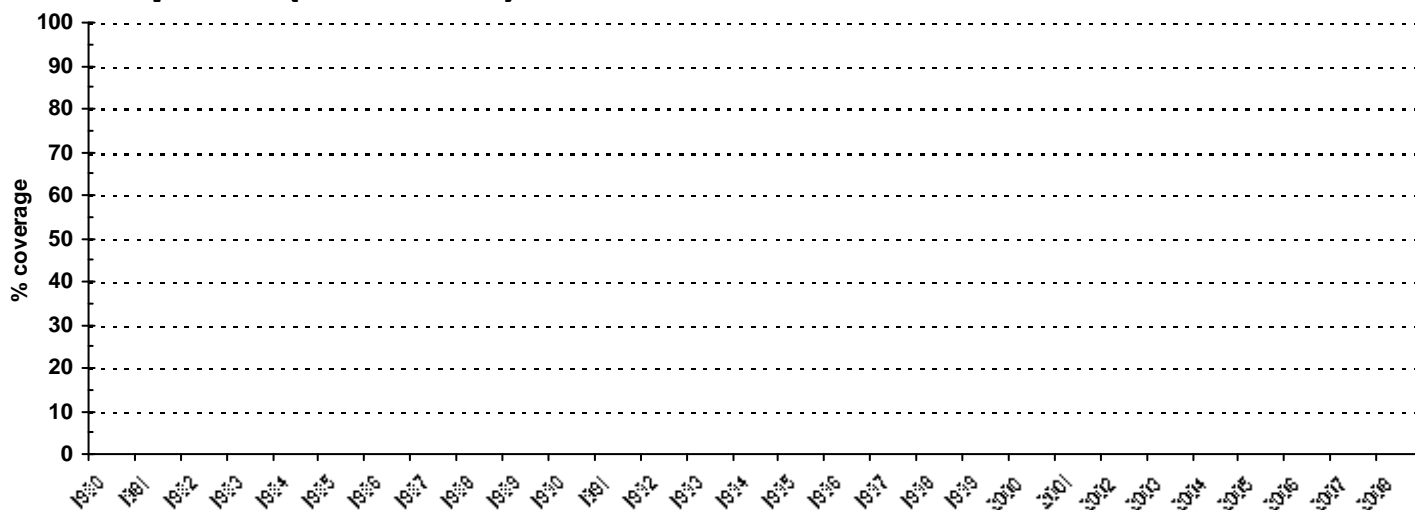
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Central African Republic

HepB3 (1980-2008)



Description of trend

DTP-HepB-Hib pentavalent combination vaccine introduced in September 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							
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1996							
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1998							
1999							
2000							
2001							
2002							
2003							
2004							
2005							
2006							
2007							
2008							

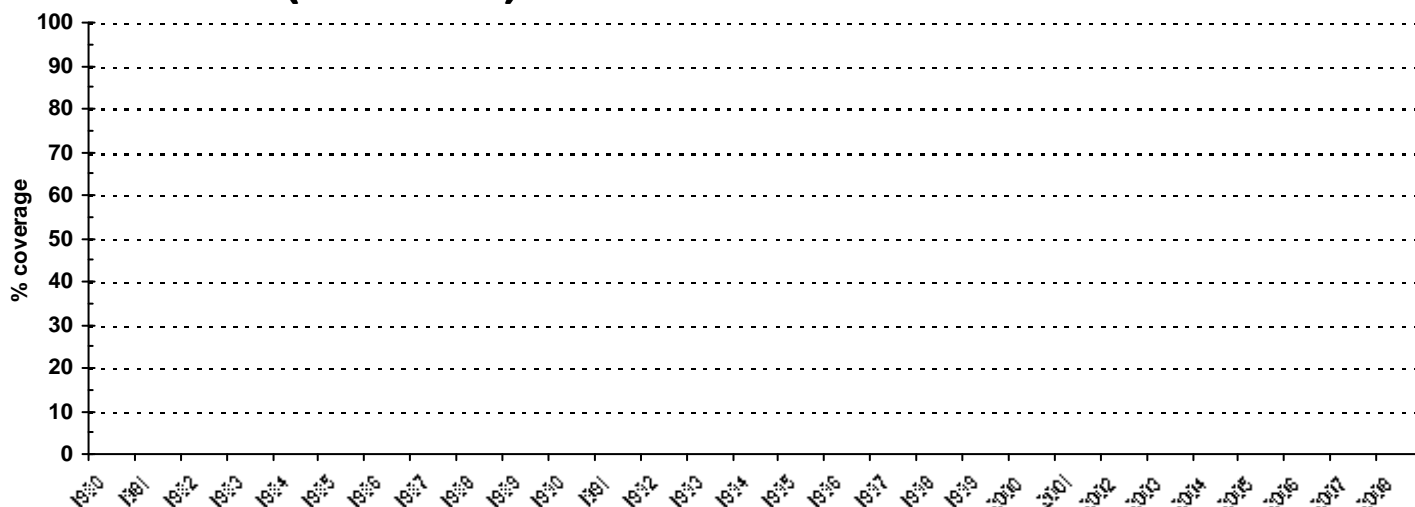
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Central African Republic

Hib3 (1980-2008)



Description of trend

DTP-HepB-Hib pentavalent combination vaccine introduced in September 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.

Central African Republic

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
2005 Enquête à indicateurs multiples couplée avec la sérologie VIH et anémie en RCA2006, rapport préliminaire								
BCG	Card or History	73.8		12-23 m	1844		2006	
BCG	C or H <12 month	71.1		12-23 m	1844		2006	
DTP1	Card or History	63.9		12-23 m	1844		2006	
DTP1	C or H <12 month	59.5		12-23 m	1844		2006	
DTP3	Card or History	54.2		12-23 m	1844		2006	
DTP3	C or H <12 month	46.5		12-23 m	1844		2006	
Pol3	Card or History	46.9		12-23 m	1844		2006	
Pol3	C or H <12 month	40.1		12-23 m	1844		2006	
MCV	Card or History	62		12-23 m	1844		2006	
MCV	C or H <12 month	50.5		12-23 m	1844		2006	
2001 Rapport Final de la Revue externe du PEV en Republique Centrafricaine 2002								
BCG	C or H <12 month	70		12-23 m		58	2002	
DTP1	C or H <12 month	65		12-23 m		58	2002	
DTP3	C or H <12 month	40		12-23 m		58	2002	
Pol3	C or H <12 month	40		12-23 m		58	2002	
MCV	C or H <12 month	35		12-23 m		58	2002	
1999 Enquête à Indicateurs Multiples en Republique Centrafricaine, 2000								
BCG	C or H <12 month	61.8		12-23 m	2932	39.4	2000	
DTP1	C or H <12 month	55.1		12-23 m	2932	39.4	2000	
DTP3	C or H <12 month	33		12-23 m	2932	39.4	2000	
Pol3	C or H <12 month	36.3		12-23 m	2932	39.4	2000	
MCV	C or H <12 month	37		12-23 m	2932	39.4	2000	
1995 Enquête a Indicateurs Multiples (MICS-RCA) 1996, 1997								
BCG	C or H <12 month	94	Valid	12-23 m			1996	Assume card or history < 12 months
DTP1	C or H <12 month	77	Valid	12-23 m			1996	Assume card or history < 12 months
DTP3	C or H <12 month	53	Valid	12-23 m			1996	Assume card or history < 12 months
Pol3	C or H <12 month	51	Valid	12-23 m			1996	Assume card or history < 12 months
MCV	C or H <12 month	46	Valid	12-23 m			1996	Assume card or history < 12 months
1994 Enquête Démographique et de Santé République Centrafricaine 1994-95, 1995								
BCG	Card or History	77.2		12-23 m	818	59.6	1994/95	
BCG	C or H <12 month	72.9		12-23 m	818	59.6	1994/95	
BCG	C or H <12 month	78		24-35 m	843	53.3	1994/95	
DTP1	Card or History	75.6		12-23 m	818	59.6	1994/95	
DTP1	C or H <12 month	70.5		12-23 m	818	59.6	1994/95	
DTP1	C or H <12 month	73.7		24-35 m	843	53.3	1994/95	
DTP3	Card or History	47.5		12-23 m	818	59.6	1994/95	
DTP3	C or H <12 month	38.2		12-23 m	818	59.6	1994/95	
DTP3	C or H <12 month	37.3		24-35 m	843	53.3	1994/95	
Pol3	Card or History	45.7		12-23 m	818	59.6	1994/95	
Pol3	C or H <12 month	36.8		12-23 m	818	59.6	1994/95	
Pol3	C or H <12 month	35.2		24-35 m	843	53.3	1994/95	
MCV	Card or History	52.4		12-23 m	818	59.6	1994/95	
MCV	C or H <12 month	35.6		12-23 m	818	59.6	1994/95	
MCV	C or H <12 month	30.6		24-35 m	843	53.3	1994/95	

Central African Republic

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
1992 Enquête a Indicateurs Multiples (MICS-RCA) 1996, 1997								
BCG	C or H <12 month	84	Valid?	12-23 m			1993	Card or history < 12 months assumed
DTP1	C or H <12 month		Valid?	12-23 m			1993	Card or history < 12 months assumed
DTP3	C or H <12 month	44	Valid?	12-23 m			1993	Card or history < 12 months assumed
Pol3	C or H <12 month	44	Valid?	12-23 m			1993	Card or history < 12 months assumed
MCV	C or H <12 month	31	Valid?	12-23 m			1993	Card or history < 12 months assumed
1992 Evaluation du Programme Elargi de Vaccination en Centrafrique, 1993								
BCG	Card or History	85		12-23 m			1993	The coverage for card only is for all antigens exactly the same as stated in the MICS (except YF: 4)
DTP1	Card or History	75		12-23 m			1993	
DTP3	Card or History	45		12-23 m			1993	
Pol3	Card or History	45		12-23 m			1993	
MCV	Card or History	32		12-23 m			1993	
1990 Rapport sur l'Enquête de Couverture Vaccinale Réalisée en Février 1991 en République Centrafricaine								
BCG	Card or History	96		12-23 m			1991	
DTP1	Card or History	95		12-23 m			1991	
DTP3	Card or History	82		12-23 m			1991	
Pol3	Card or History	82		12-23 m			1991	
MCV	Card or History	82		12-23 m			1991	

Central African 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.

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.

Central African Republic

Year	PAB coverage estimate (%)
1980	8
1981	13
1982	18
1983	19
1984	24
1985	24
1986	25
1987	25
1988	34
1989	49
1990	69
1991	77
1992	45
1993	39
1994	31
1995	34
1996	33
1997	29
1998	24
1999	38
2000	36
2001	34
2002	31
2003	32
2004	35
2005	48
2006	52
2007	54
2008	86