

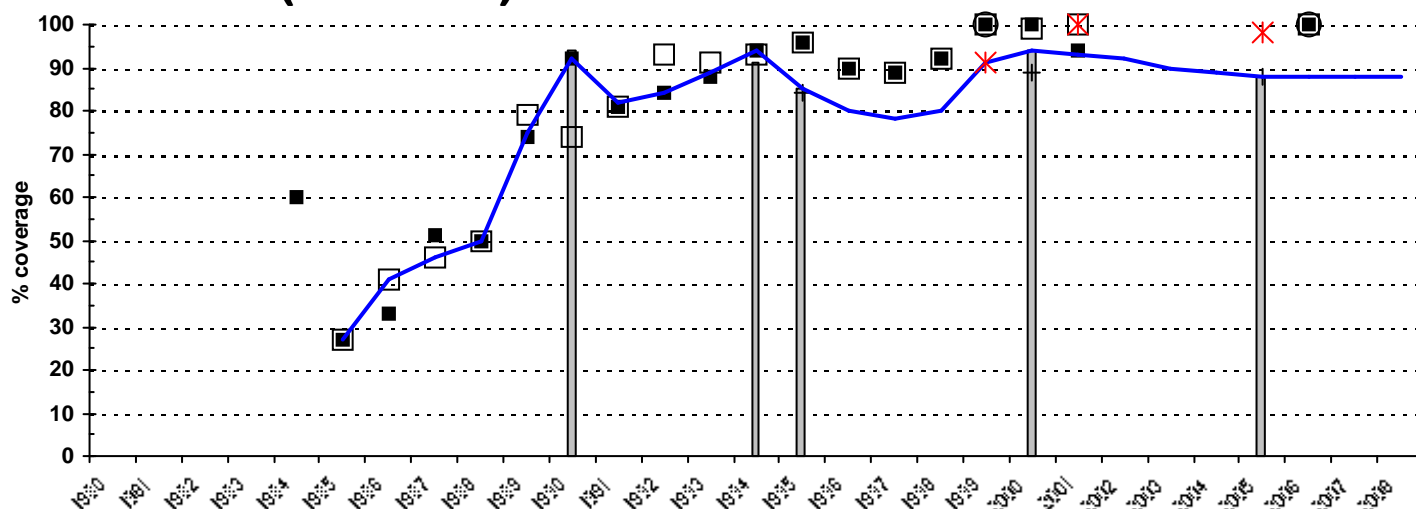
**WHO/UNICEF
Review of National Immunization Coverage
1980-2008**

Benin

July, 2009

Benin

BCG (1980-2008)



Description of trend

From 1985 to 1994 estimates are based on reported data, supported by surveys. The estimates between 1995 and 2001 are calibrated based on officially reported data at levels from the 1996/1997 DHS and the 2001 EPI coverage survey. Estimates following 2001 are based on national reported data. The increase in coverage in 2003 can be partially attributed to the Accelerated Child Survival and Development project activities which included raising coverage in high risk districts as well as improving monitoring systems which began in 2001. Estimates since 2000 are based on survey results.

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			60				
1985	27	27	27				
1986	41	41	33				
1987	46	46	51				
1988	50	50	50				
1989	75	79	74				
1990	92	74	92			94	
1991	82	81	81				
1992	84	93	84				
1993	89	91	88				
1994	94	93	94			91	
1995	85	96	96			85	84
1996	80	90	90				
1997	78	89	89				
1998	80	92	92				
1999	91	100	100	100	91		
2000	94	99	100	102	102	94	89
2001	93	100	94		100		
2002	92	106	106		106		
2003	90	105	105	105	105		
2004	89	109	109	109	109		
2005	88	110	110	110	98	88	88
2006	88	100	100	100	111		
2007	88	116	116	116	116		
2008	88	114	114	114	114		

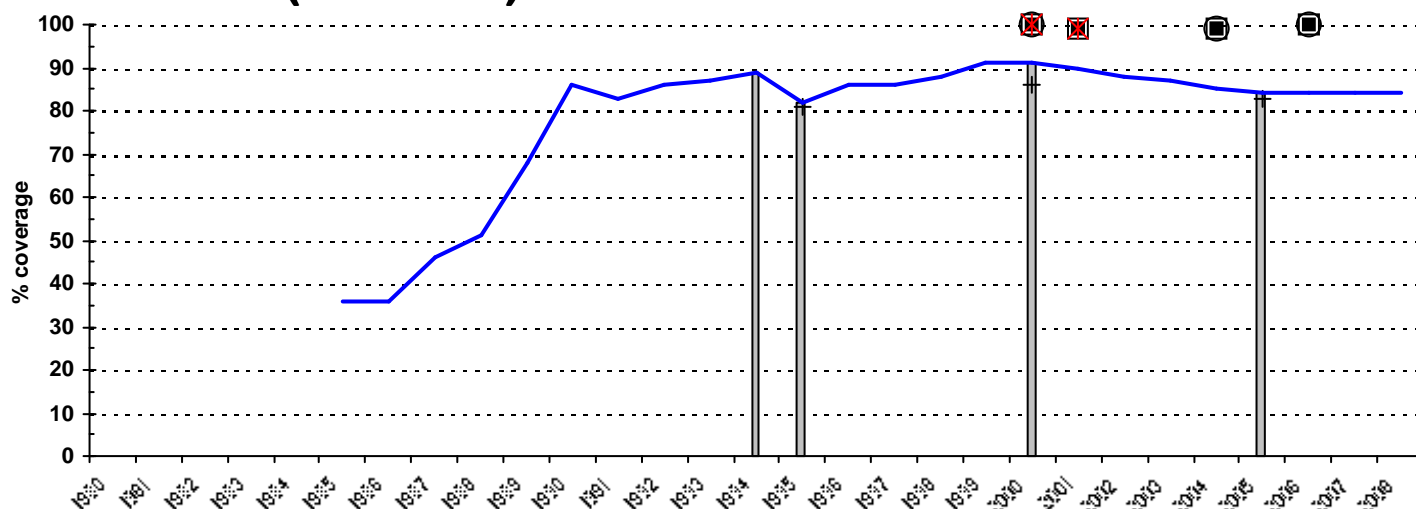
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Benin

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. For years 1994 to 2003 the estimates are derived from the WHO/UNICEF estimates of DTP3 and the relationship between the level DTP3 coverage and the drop-out between DTP1 and DTP3. This relationship results from an analysis of 282 surveys conducted in 101 count which were published between 1980 and 2004. From 1985 to 1994, estimates are based on the relationship between DTP3 and drop-out recalibrated to the level observed in the 1994 survey. No DTP1 data were available for the 1990 survey. Estimates since 2000 are based on results.

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	36						
1986	36						
1987	46						
1988	51						
1989	68						
1990	86						
1991	83						
1992	86						
1993	87						
1994	89					89	
1995	82					82	81
1996	86						
1997	86						
1998	88						
1999	91						
2000	91	100	100	100	100	91	86
2001	90	99	99		99		
2002	88	110	110		110		
2003	87	104	104	104	104		
2004	85	99	99	99	108		
2005	84	106	106	106	106	84	83
2006	84	100	100	100	103		
2007	84	107	107	107	107		
2008	84	105	105	105	105		

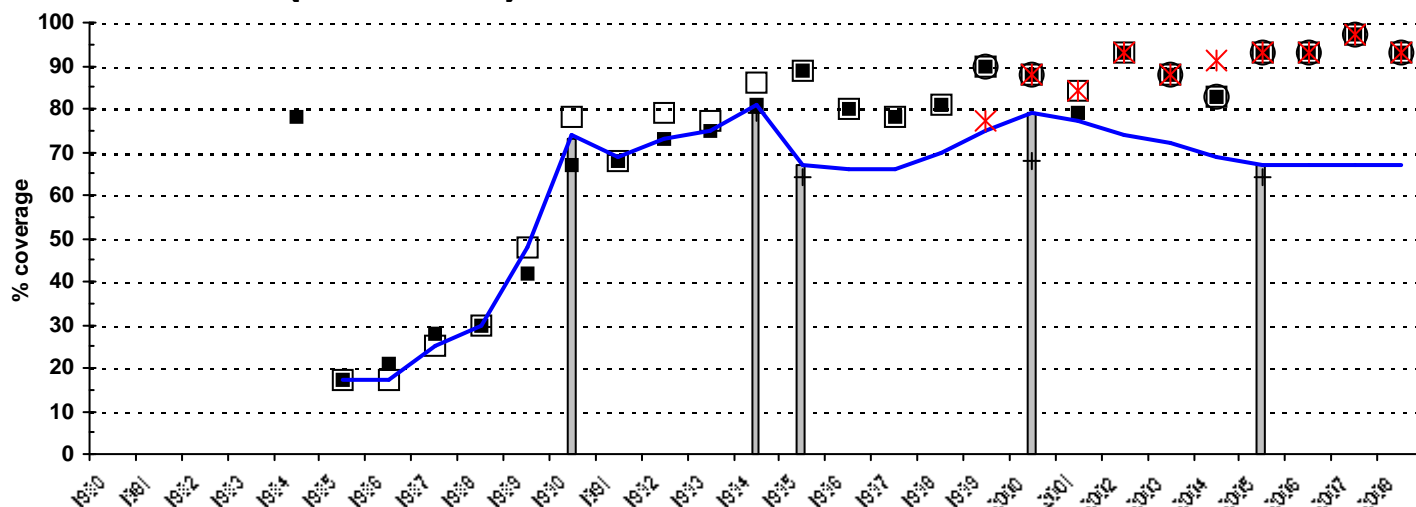
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

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

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Benin

DTP3 (1980-2008)



Description of trend

From 1985 to 1994 estimates are based on reported data, supported by surveys. The estimates between 1995 and 2001 are calibrated based on officially reported data at levels from the 1996/1997 DHS and the 2001 EPI coverage survey. Estimates since 2000 are based on survey results.

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			78				
1985	17	17	17				
1986	17	17	21				
1987	25	25	28				
1988	30	30	30				
1989	48	48	42				
1990	74	78	67			73	
1991	69	68	68				
1992	73	79	73				
1993	75	77	75				
1994	81	86	81			82	79
1995	67	89	89			67	64
1996	66	80	80				
1997	66	78	78				
1998	70	81	81				
1999	75	90	90	90	77		
2000	79	88	88	88	88	79	68
2001	77	84	79		84		
2002	74	93	93	-222	93		
2003	72	88	88	88	88		
2004	69	83	83	83	91		
2005	67	93	93	93	93	67	64
2006	67	93	93	93	93		
2007	67	97	97	97	97		
2008	67	93	93	93	93		

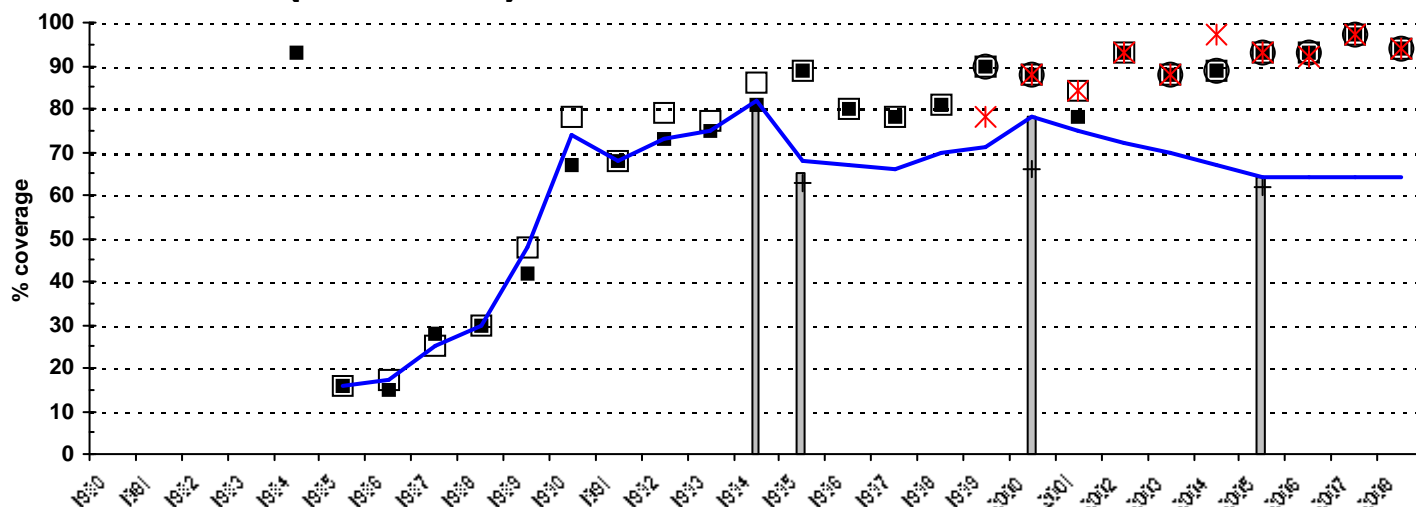
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Benin

Pol3 (1980-2008)



Description of trend

From 1985 to 1994 estimates are based on reported data, supported by surveys. The estimates between 1995 and 2001 are calibrated based on officially reported data at levels from the 1996/1997 DHS and the 2001 EPI coverage survey. Estimates since 2000 are based on survey results.

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			93				
1985	16	16	16				
1986	17	17	15				
1987	25	25	28				
1988	30	30	30				
1989	48	48	42				
1990	74	78	67				
1991	68	68	68				
1992	73	79	73				
1993	75	77	75				
1994	82	86	81			82	
1995	68	89	89			65	63
1996	67	80	80				
1997	66	78	78				
1998	70	81	81				
1999	71	90	90	90	78		
2000	78	88	88	88	88	78	66
2001	75	84	78		84		
2002	72	93	93		93		
2003	70	88	88	88	88		
2004	67	89	89	89	97		
2005	64	93	93	93	93	64	62
2006	64	93	93	93	92		
2007	64	97	97	97	97		
2008	64	94	94	94	94		

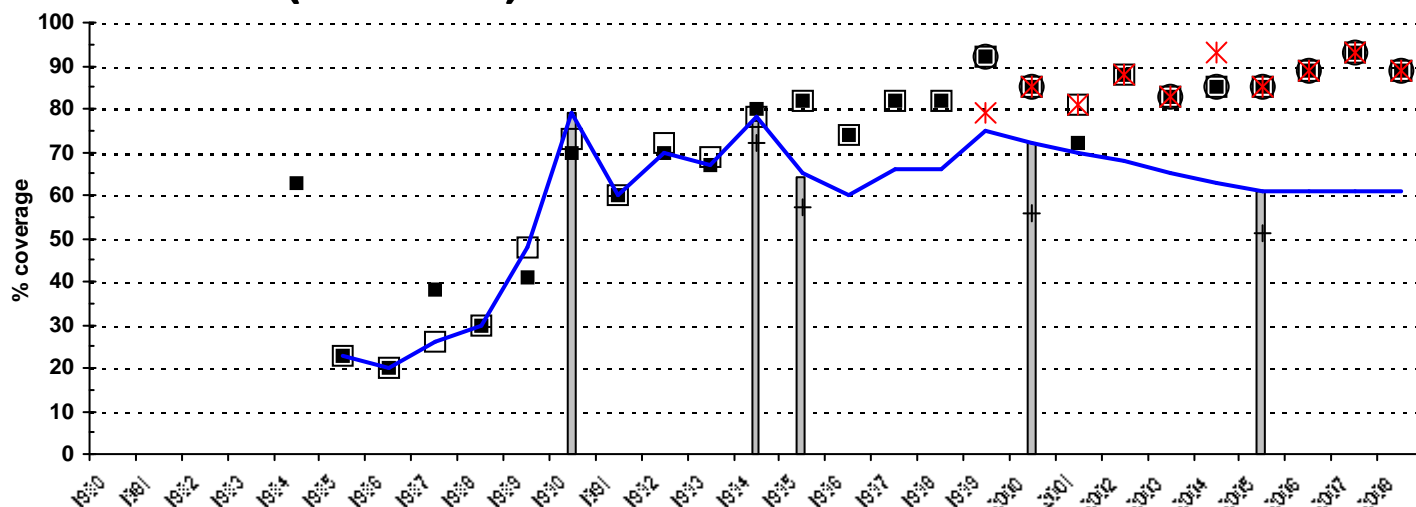
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Benin

MCV (1980-2008)



Description of trend

From 1985 to 1994 estimates are based on reported data, supported by surveys. The estimates between 1995 and 2001 are calibrated based on officially reported data at levels from the 1996/1997 DHS and the 2001 EPI coverage survey. Estimates since 2000 are based on survey results.

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			63				
1985	23	23	23				
1986	20	20	20				
1987	26	26	38				
1988	30	30	30				
1989	48	48	41				
1990	79	73	70			79	
1991	60	60	60				
1992	70	72	70				
1993	67	69	67				
1994	78	78	80			77	72
1995	65	82	82			64	57
1996	60	74	74				
1997	66	82	82				
1998	66	82	82				
1999	75	92	92	92	79		
2000	72	85	85	85	85	72	56
2001	70	81	72		81		
2002	68	88	88		88		
2003	65	83	83	83	83		
2004	63	85	85	85	93		
2005	61	85	85	85	85	61	51
2006	61	89	89	89	89		
2007	61	93	93	93	93		
2008	61	89	89	89	89		

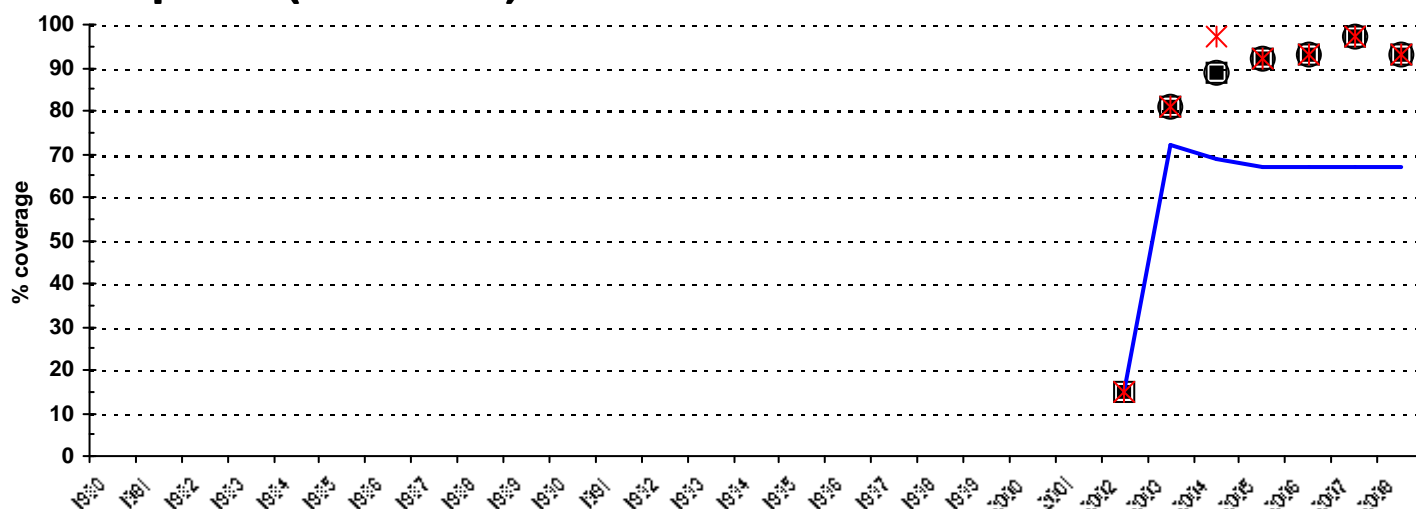
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Benin

HepB3 (1980-2008)



Description of trend

Hepatitis B vaccine introduced in 2002. The increase in coverage in 2003 can be partially attributed to the Accelerated Child Survival and Development project activities which included raising coverage in high risk districts as well as improving monitoring systems which began in 2001. DTP-HepB-Hib combination vaccine introduced in 2005. Estimates from 2003 onward are based on DTP3 coverage.

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	15	15	15		15		
2003	72	81	81	81	81		
2004	69	89	89	89	97		
2005	67	92	92	92	92		
2006	67	93	93	93	93		
2007	67	97	97	97	97		
2008	67	93	93	93	93		

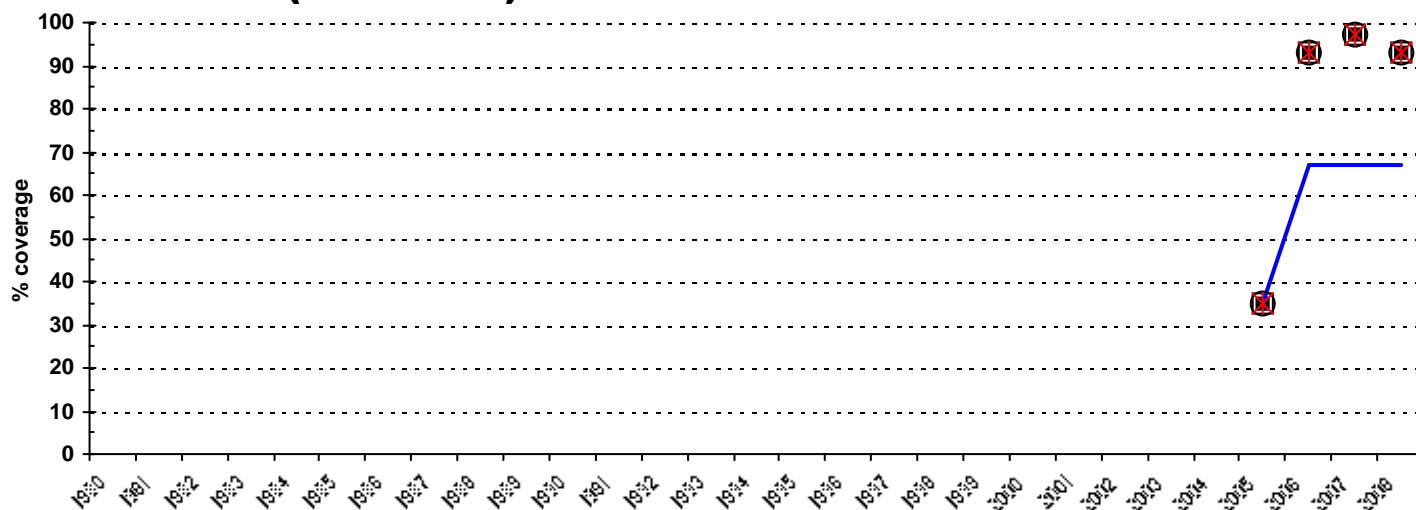
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Benin

Hib3 (1980-2008)



Description of trend

DTP-HepB-Hib combination vaccine introduced in 2005. Estimates are based on nationally reported data. Estimates from 2006 onward are based on survey results.

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	35	35	35	35	35		
2006	67	93	93	93	93		
2007	67	97	97	97	97		
2008	67	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.

Benin

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
2005 Enquête Démographique et de Santé au Bénin de 2006								
BCG	Card or History	88.3		12-23 m	3005	66.1	2006	
BCG	C or H <12 month	87.9		12-23 m	3005	66.1	2006	
DTP1	Card or History	84		12-23 m	3005	66.1	2006	
DTP1	C or H <12 month	83.2		12-23 m	3005	66.1	2006	
DTP3	Card or History	67		12-23 m	3005	66.1	2006	
DTP3	C or H <12 month	64.5		12-23 m	3005	66.1	2006	
Pol3	Card or History	63.9		12-23 m	3005	66.1	2006	
Pol3	C or H <12 month	61.6		12-23 m	3005	66.1	2006	
MCV	Card or History	61.1		12-23 m	3005	66.1	2006	
MCV	C or H <12 month	51.1		12-23 m	3005	66.1	2006	
2000 Benin, Revue Externe du Programme Elargi de Vaccination, 2001								
BCG	Card or History	94		12-23 m	2699	85	2001	
DTP1	Card or History	91		12-23 m	2699	85	2001	
DTP3	Card or History	79		12-23 m	2699	85	2001	
Pol3	Card or History	78		12-23 m	2699	85	2001	
MCV	Card or History	72		12-23 m	2699	85	2001	
2000 Enquête Démographique et de Santé au Bénin 2001, 2002								
BCG	Card or History	89.9		12-23 m	932	73.3	2001	
BCG	C or H <12 month	89.2		12-23 m	932	73.3	2001	
DTP1	Card or History	87.2		12-23 m	932	73.3	2001	
DTP1	C or H <12 month	86.2		12-23 m	932	73.3	2001	
DTP3	Card or History	72.5		12-23 m	932	73.3	2001	
DTP3	C or H <12 month	68.5		12-23 m	932	73.3	2001	
Pol3	Card or History	69.3		12-23 m	932	73.3	2001	
Pol3	C or H <12 month	65.9		12-23 m	932	73.3	2001	
MCV	Card or History	68		12-23 m	932	73.3	2001	
MCV	C or H <12 month	55.9		12-23 m	932	73.3	2001	
1995 Bénin, Enquête Démographique et de Santé 1996, 1997								
BCG	Card or History	85.4		12-23 m			1996	
BCG	C or H <12 month	84.2		12-23 m			1996	
DTP1	Card or History	82.3		12-23 m			1996	
DTP1	C or H <12 month	81.1		12-23 m			1996	
DTP3	Card or History	66.9		12-23 m			1996	
DTP3	C or H <12 month	64.1		12-23 m			1996	
Pol3	Card or History	65.4		12-23 m			1996	
Pol3	C or H <12 month	62.7		12-23 m			1996	
MCV	Card or History	64.3		12-23 m			1996	
MCV	C or H <12 month	56.8		12-23 m			1996	
1994 PEV, Enquête Nationale de Couverture Vaccinale 1995								
BCG	Card or History	91		12-18 m	1704		1995	
BCG	C or H <12 month			12-23 m	1704		1995	
DTP1	Card or History	89		12-23 m	1704		1995	
DTP1	C or H <12 month			12-23 m	1704		1995	
DTP3	Card or History	82		12-18 m	1704		1995	
DTP3	C or H <12 month	79		12-18 m	1704		1995	
Pol3	Card or History	82		12-23 m	1704		1995	

Benin

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
Pol3	C or H <12 month			12-23 m	1704		1995	
MCV	Card or History	77		12-18 m	1704		1995	
MCV	C or H <12 month	72		12-18 m	1704		1995	

1990 *Evaluation de la couverture vaccinale et de la mobilisation sociale du programme élargi de vaccination 1991, in: Enfants et femmes, avenir du Bénin*

BCG	Card or History	94		12-18 m			1991	
DTP1	Card or History			12-18 m			1991	
DTP3	Card or History	73		12-18 m			1991	
Pol3	Card or History			12-18 m			1991	
MCV	Card or History	79		12-18 m			1991	

Benin

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.

Benin

Year	PAB coverage estimate (%)
1980	
1981	
1982	
1983	
1984	
1985	
1986	4
1987	9
1988	13
1989	23
1990	48
1991	71
1992	55
1993	58
1994	61
1995	82
1996	81
1997	82
1998	79
1999	89
2000	87
2001	81
2002	85
2003	84
2004	93
2005	95
2006	95
2007	93
2008	92