

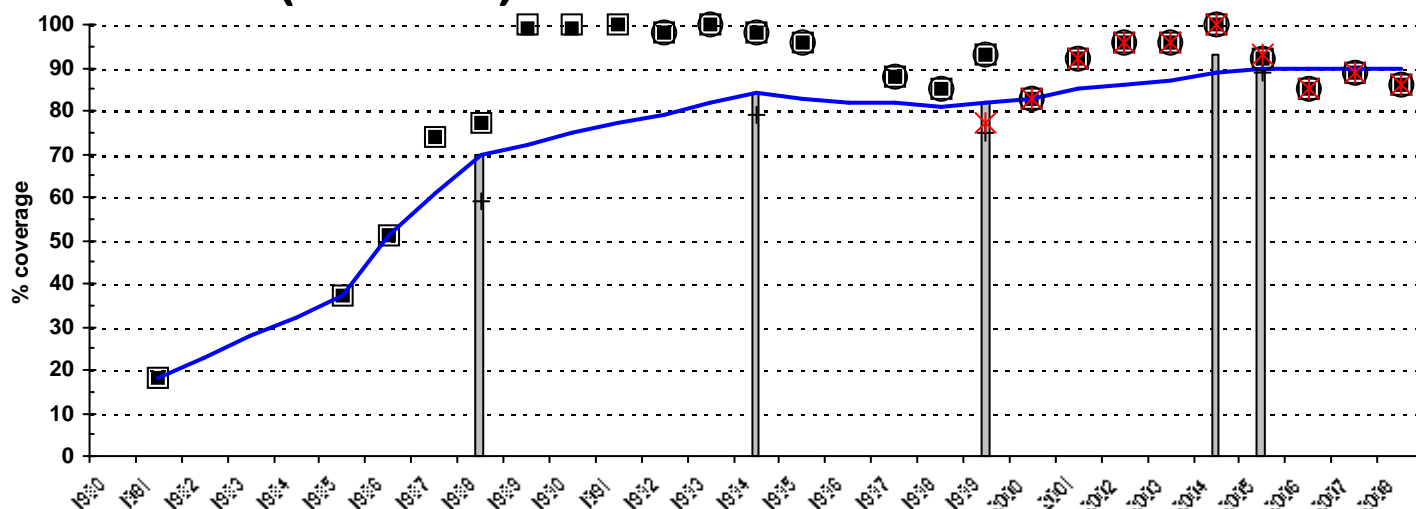
**WHO/UNICEF
Review of National Immunization Coverage
1980-2008**

Uganda

July, 2009

Uganda

BCG (1980-2008)



Description of trend

Estimates from 1981-1986 based on national reports. Estimates from 1987 are based on survey results. Officially reported data are probably overestimate as a result of underestimating the denominator. The 2004 survey has a sample size of 232 children and is not considered.

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	18	18				
1982	23						
1983	28						
1984	32						
1985	37	37	37				
1986	51	51	51				
1987	61	74	74				
1988	70	77	77			70	59
1989	72	100	99				
1990	75	100	99				
1991	77	100	100				
1992	79	98	98	98			
1993	82	100	100	100			
1994	84	98	98	98		84	79
1995	83	96	96	96			
1996	82	102	102	102			
1997	82	88	88	88			
1998	81	85	85	85			
1999	82	93	93	93	77	82	75
2000	83	83	83	83	83		
2001	85	92	92	92	92		
2002	86	96	96	96	96		
2003	87	96	96	96	96		
2004	89	100	100	100	100	93	
2005	90	92	92	92	93	90	89
2006	90	85	85	85	85		
2007	90	89	89	89	89		
2008	90	86	86	86	86		

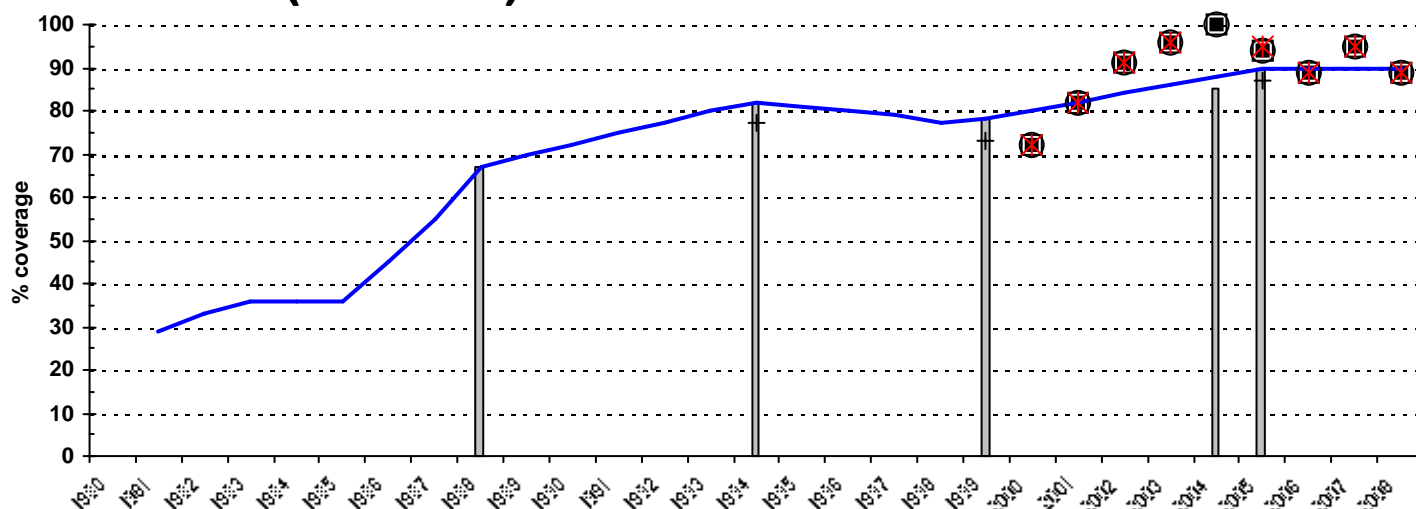
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Uganda

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 DTP1 estimates from 2000 onward are based on these reports. For years prior to 1988 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. The estimate from 1988 onward are based on survey data. The 2004 survey has a sample size of 232 children and is not considered.

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	29						
1982	33						
1983	36						
1984	36						
1985	36						
1986	45						
1987	55						
1988	67					67	
1989	70						
1990	72						
1991	75						
1992	77						
1993	80						
1994	82					82	77
1995	81						
1996	80						
1997	79						
1998	77						
1999	78					78	73
2000	80	72	72	72	72		
2001	82	82	82	82	82		
2002	84	91	91	91	91		
2003	86	96	96	96	96		
2004	88	100	100	100	101	85	
2005	90	94	94	94	95	90	87
2006	90	89	89	89	89		
2007	90	95	95	95	95		
2008	90	89	89	89	89		

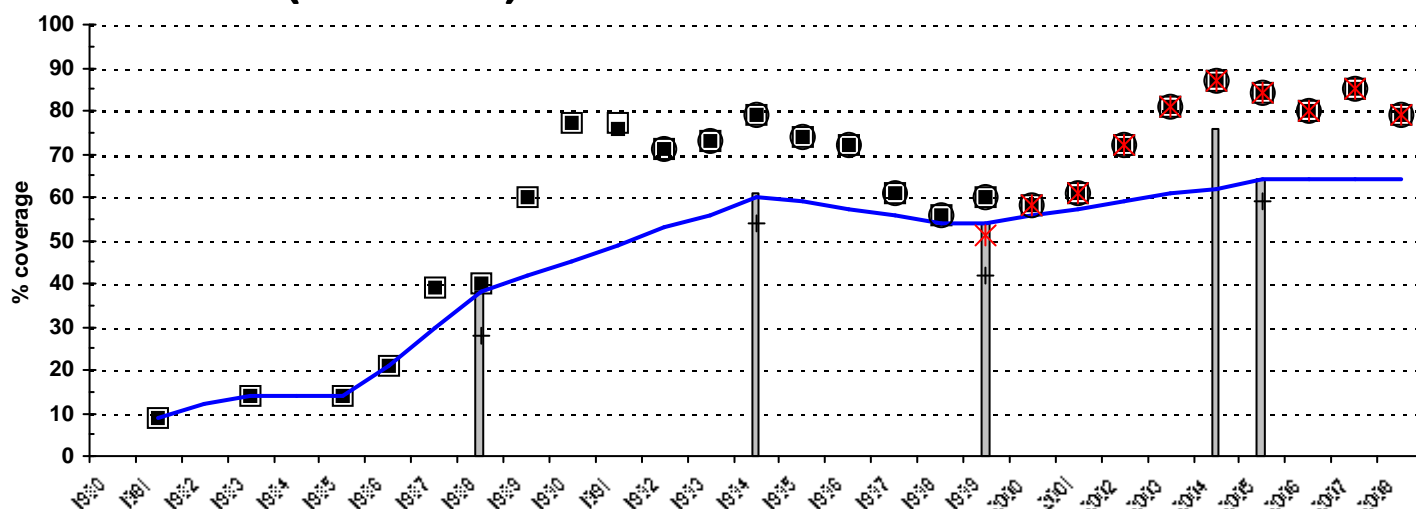
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

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

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Uganda

DTP3 (1980-2008)



Description of trend

Estimates from 1981-1986 based on national reports. The estimates from 1988 onward are based on survey data. The 2004 survey has a sample size of 232 children and is not considered. Officially reported data are probably an overestimate as a result of underestimating the denominator.

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	9	9	9				
1982	12						
1983	14	14	14				
1984	14						
1985	14						
1986	21	21	21				
1987	30	39	39				
1988	38	40	40			38	28
1989	42	60	60				
1990	45	77	77				
1991	49	77	76				
1992	53	71	71	71			
1993	56	73	73	73			
1994	60	79	79	79		61	54
1995	59	74	74	74			
1996	57	72	72	72			
1997	56	61	61	61			
1998	54	56	56	56			
1999	54	60	60	60	51	54	42
2000	56	58	58	58	58		
2001	57	61	61	61	61		
2002	59	72	72	72	72		
2003	61	81	81	81	81		
2004	62	87	87	87	87	76	
2005	64	84	84	84	84	64	59
2006	64	80	80	80	80		
2007	64	85	85	85	85		
2008	64	79	79	79	79		

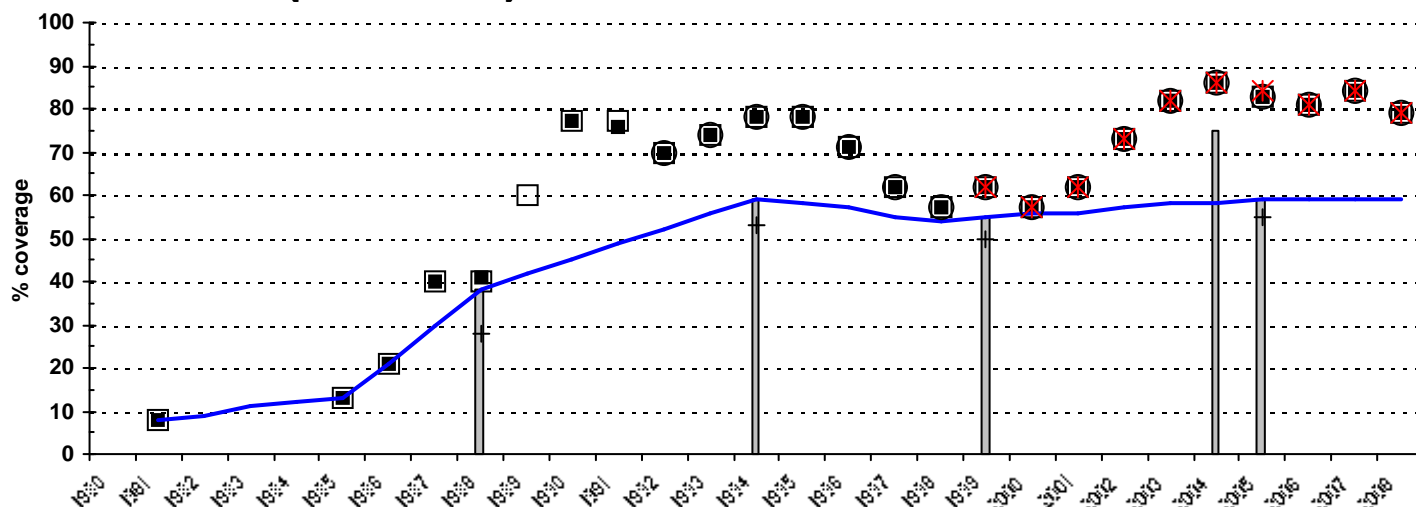
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Uganda

Pol3 (1980-2008)



Description of trend

Estimates from 1981-1986 based on national reports. The estimates from 1988 onward are based on survey data. The 2004 survey has a sample size of 232 children and is not considered. Officially reported data are probably an overestimate as a result of underestimating the denominator.

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	8	8	8				
1982	9						
1983	11						
1984	12						
1985	13	13	13				
1986	21	21	21				
1987	30	40	40				
1988	38	40	41			38	28
1989	42	60					
1990	45	77	77				
1991	49	77	76				
1992	52	70	70	70			
1993	56	74	74	74			
1994	59	78	78	78		59	53
1995	58	78	78	78			
1996	57	71	71	71			
1997	55	62	62	62			
1998	54	57	57	57			
1999	55	62	62	62	62	55	50
2000	56	57	57	57	57		
2001	56	62	62	62	62		
2002	57	73	73	73	73		
2003	58	82	82	82	82		
2004	58	86	86	86	86	75	
2005	59	83	83	83	84	59	55
2006	59	81	81	81	81		
2007	59	84	84	84	84		
2008	59	79	79	79	79		

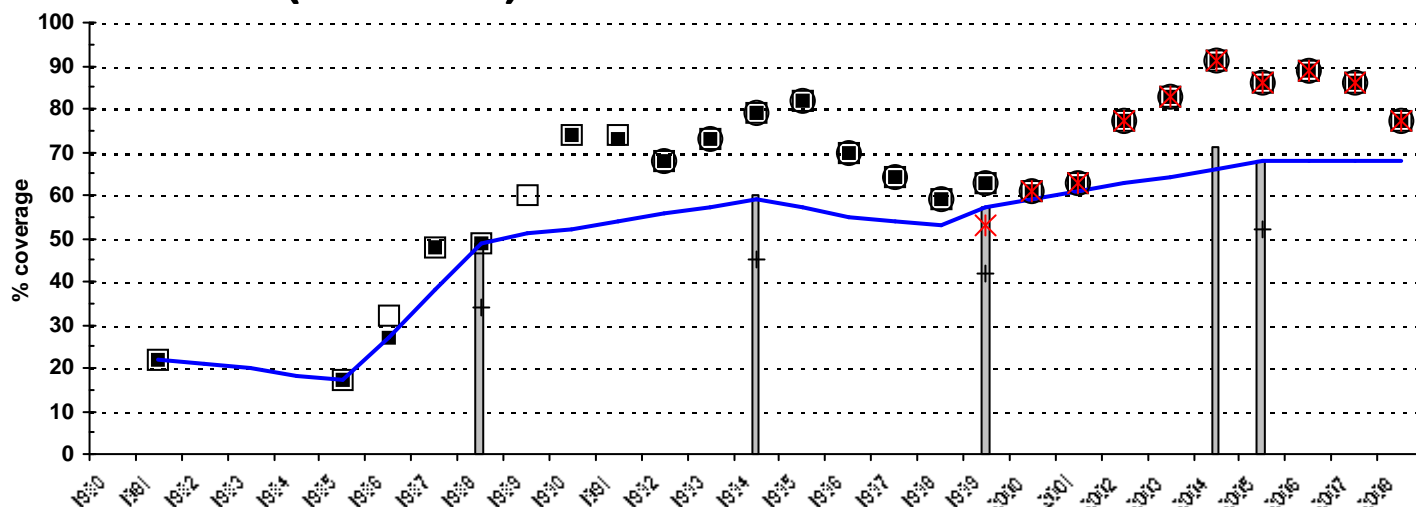
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Uganda

MCV (1980-2008)



Description of trend

Estimates from 1981-1986 based on national reports. The estimates from 1988 onward are based on survey data. The 2004 survey has a size of 232 children and is not considered. Officially reported data are probably an overestimate as a result of underestimating the denominator.

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	22	22	22				
1982	21						
1983	20						
1984	18						
1985	17	17	17				
1986	27	32	27				
1987	38	48	48				
1988	49	49	49			49	34
1989	51	60					
1990	52		74				
1991	54	74	73				
1992	56	68	68	68			
1993	57	73	73	73			
1994	59	79	79	79		60	45
1995	57	82	82	82			
1996	55	70	70	70			
1997	54	64	64	64			
1998	53	59	59	59			
1999	57	63	63	63	53	57	42
2000	59	61	61	61	61		
2001	61	63	63	63	63		
2002	63	77	77	77	77		
2003	64	83	83	83	83		
2004	66	91	91	91	91	71	
2005	68	86	86	86	86	68	52
2006	68	89	89	89	89		
2007	68	86	86	86	86		
2008	68	77	77	77	77		

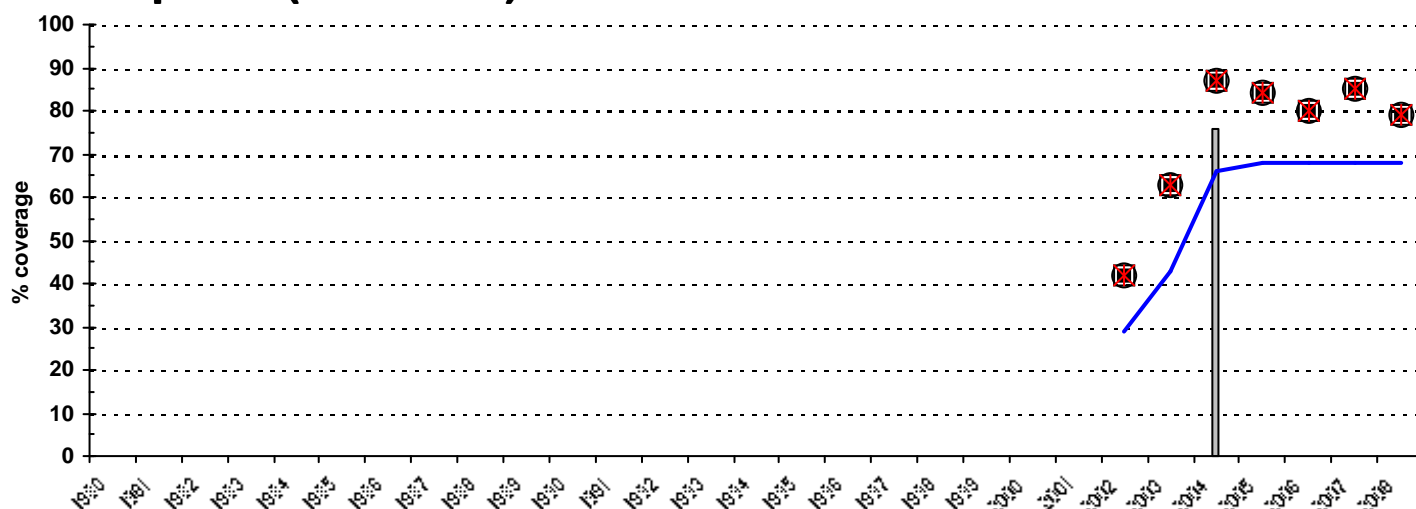
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Uganda

HepB3 (1980-2008)



Description of trend

Pentavalent DTP, HepB, Hib vaccine introduced in June 2002. Estimated immunization coverage levels are based on reported data applying DTP3 adjustment between reported DTP3 and the 2005 survey results. During 2003 Uganda experienced a shortage of pentavalent vaccine for four months. While DTP was available as a substitute, this was not the case for Hepatitis B vaccine which led to a lower HepB3 coverage for that year. The 2004 survey has a sample size of 232 children and is not considered.

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	29	42	42	42	42		
2003	43	63	63	63	63		
2004	66	87	87	87	87	76	
2005	68	84	84	84	84		
2006	68	80	80	80	80		
2007	68	85	85	85	85		
2008	68	79	79	79	79		

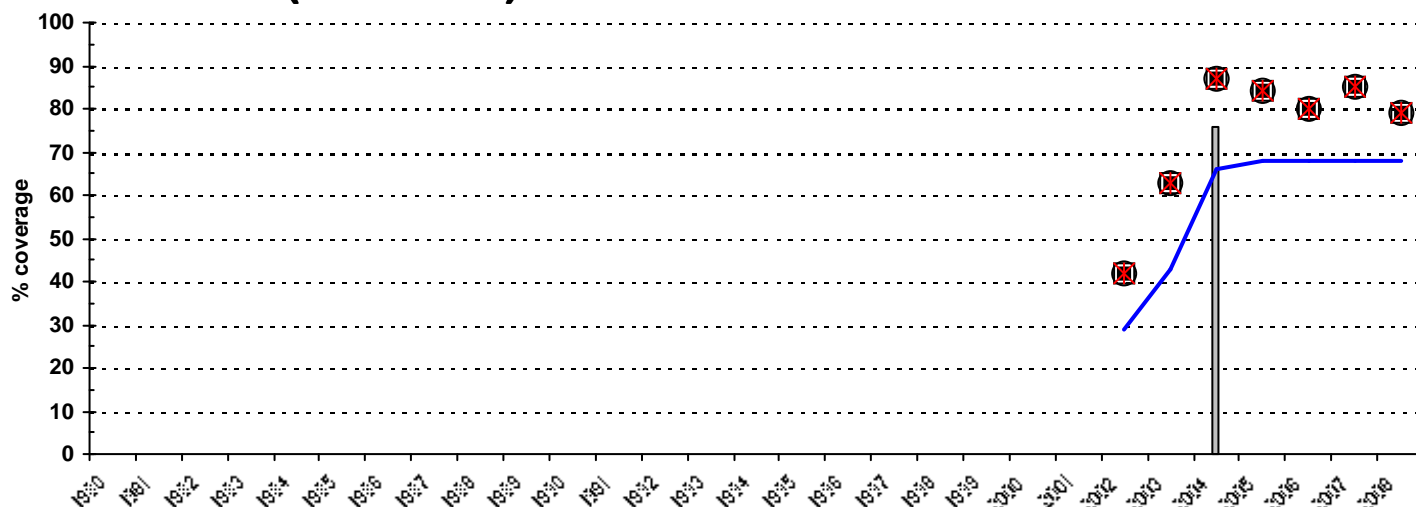
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Uganda

Hib3 (1980-2008)



Description of trend

Pentavalent DTP, HepB, Hib vaccine introduced in June 2002. Estimated immunization coverage levels are based on reported data applying DTP3 adjustment between reported DTP3 and the 2005 survey results. During 2003 Uganda experienced a shortage of pentavalent vaccine for four months. While DTP was available as a substitute, this was not the case for Hepatitis B vaccine which led to a lower HepB3 coverage for year. The 2004 survey has a sample size of 232 children and is not considered.

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	29	42	42	42	42		
2003	43	63	63	63	63		
2004	66	87	87	87	87	76	
2005	68	84	84	84	84		
2006	68	80	80	80	80		
2007	68	85	85	85	85		
2008	68	79	79	79	79		

*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.

Uganda

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
2005 Uganda Demographic and Health Survey 2006								
BCG	Card or History	90.5		12-23 m	1590	63.1	2006	
BCG	C or H <12 month	89.4		12-23 m	1590	63.1	2006	
DTP1	Card or History	89.8		12-23 m	1590	63.1	2006	
DTP1	C or H <12 month	87		12-23 m	1590	63.1	2006	
DTP3	Card or History	63.9		12-23 m	1590	63.1	2006	
DTP3	C or H <12 month	58.9		12-23 m	1590	63.1	2006	
Pol3	Card or History	59.3		12-23 m	1590	63.1	2006	
Pol3	C or H <12 month	54.7		12-23 m	1590	63.1	2006	
MCV	Card or History	68.1		12-23 m	1590	63.1	2006	
MCV	C or H <12 month	52.3		12-23 m	1590	63.1	2006	
PAB	n.a.	75.6		CBAW	5035		2006	
2004 Uganda EPI Plus Coverage Survey 2006								
BCG	Card or History	93.1	Crude	12-23 m	232	73	2005	
DTP1	Card or History	85.2	Crude	12-23 m	232	73	2005	
DTP3	Card or History	76.3	Crude	12-23 m	232	73	2005	
Pol3	Card or History	75	Crude	12-23 m	232	73	2005	
MCV	Card or History	71.2	Crude	12-23 m	232	73	2005	
HepB	Card or History	76.3	Crude	12-23 m	232	73	2005	
Hib3	Card or History	76.3	Crude	12-23 m	232	73	2005	
1999 Uganda Demographic and Health Survey 2000-2001								
BCG	Card or History	78.7		12-23 m	1504		2000/01	
BCG	C or H <12 month	75		12-23 m	1504		2000/01	
DTP1	Card or History	77		12-23 m	1504		2000/01	
DTP1	C or H <12 month	72.9		12-23 m	1504		2000/01	
DTP3	Card or History	46.1		12-23 m	1504		2000/01	
DTP3	C or H <12 month	42		12-23 m	1504		2000/01	
Pol3	Card or History	54.1		12-23 m	1504		2000/01	
Pol3	C or H <12 month	49.6		12-23 m	1504		2000/01	
MCV	Card or History	56.8		12-23 m	1504		2000/01	
MCV	C or H <12 month	42.3		12-23 m	1504		2000/01	
1999 Uganda Immunization Coverage Validation Survey 1998/1999								
BCG	Card or History	82.5	Crude	12-23 m	10466		1998/99	
DTP1	Card or History	78	Crude	12-23 m	10466		1998/99	
DTP3	Card or History	54.5	Crude	12-23 m	10466		1998/99	
Pol3	Card or History	54.9	Crude	12-23 m	10466		1998/99	
MCV	Card or History	53.1	Crude	12-23 m	10466		1998/99	
1994 Uganda Demographic and Health Survey 1995, 1996								
BCG	Card or History	83.6		12-23 m	1588	60.5	1995	
BCG	C or H <12 month	79.4		12-23 m	1588	60.5	1995	
DTP1	Card or History	81.7		12-23 m	1588	60.5	1995	
DTP1	C or H <12 month	76.8		12-23 m	1588	60.5	1995	
DTP3	Card or History	61.1		12-23 m	1588	60.5	1995	
DTP3	C or H <12 month	54.5		12-23 m	1588	60.5	1995	
Pol3	Card or History	59		12-23 m	1588	60.5	1995	
Pol3	C or H <12 month	52.6		12-23 m	1588	60.5	1995	
MCV	Card or History	59.6		12-23 m	1588	60.5	1995	

Uganda

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
MCV	C or H <12 month	45.2		12-23 m	1588	60.5	1995	

1988 *Demographic and Health Surveys Comparative Studies No. 1, Immunization, Boerma et al., Institute for Resource Development/Macro Systems, 1990*

BCG	Card or History	70		12-23 m	946		1988/89	
BCG	C or H <12 month	59		12-23 m	946		1988/89	
DTP1	Card or History	67		12-23 m	946		1988/89	
DTP1	C or H <12 month			12-23 m	946		1988/89	
DTP3	Card or History	38		12-23 m	946		1988/89	
DTP3	C or H <12 month	28		12-23 m	946		1988/89	
Pol3	Card or History	38		12-23 m	946		1988/89	
Pol3	C or H <12 month	28		12-23 m	946		1988/89	
MCV	Card or History	49		12-23 m	946		1988/89	
MCV	C or H <12 month	34		12-23 m	946		1988/89	

Uganda

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.

Uganda

Year	PAB coverage estimate (%)
1980	
1981	18
1982	19
1983	19
1984	16
1985	12
1986	13
1987	19
1988	22
1989	29
1990	41
1991	50
1992	82
1993	84
1994	83
1995	82
1996	77
1997	72
1998	68
1999	69
2000	70
2001	72
2002	78
2003	78
2004	82
2005	85
2006	83
2007	85
2008	85