

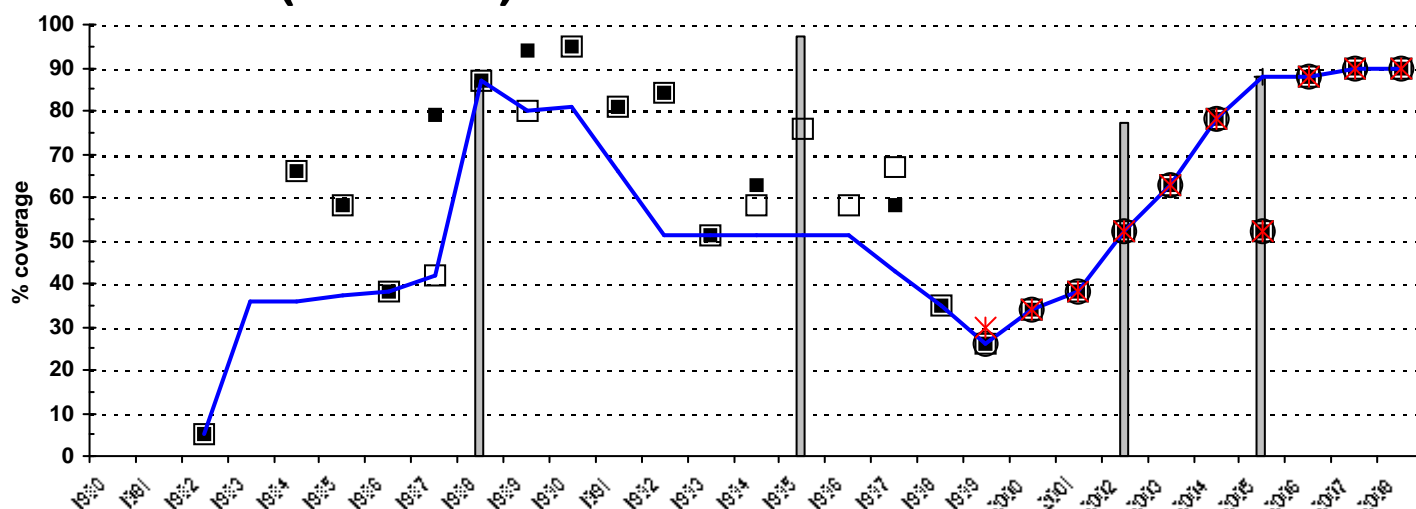
**WHO/UNICEF
Review of National Immunization Coverage
1980-2008**

Djibouti

July, 2009

Djibouti

BCG (1980-2008)



Description of trend

Estimated immunization coverage levels are based on reported data, supported by survey results. The reported data throughout the 1990s, however, seem to over-report coverage and are probably only applicable to southern districts following the eruption of conflict in the country. MICS 1996 seem to over-report coverage and is not considered. The drop in the late 1990s is due to a breakdown in the cold chain.

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	5	5	5				
1983	36						
1984	36	66	66				
1985	37	58	58				
1986	38	38	38				
1987	42	42	79				
1988	87	87	87			87	
1989	80	80	94				
1990	81	95	95				
1991	66	81	81				
1992	51	84	84				
1993	51	51	51				
1994	51	58	63				
1995	51	76				97	
1996	51	58					
1997	43	67	58				
1998	35	35	35				
1999	26	26	26	26	30		
2000	34	34	34	34	34		
2001	38	38	38	38	38		
2002	52	52	52	52	52	77	
2003	63	63	63	63	63		
2004	78	78	78	78	78		
2005	88	52	52	52	52	88	88
2006	88	88	88	88	88		
2007	90	90	90	90	90		
2008	90	90	90	90	90		

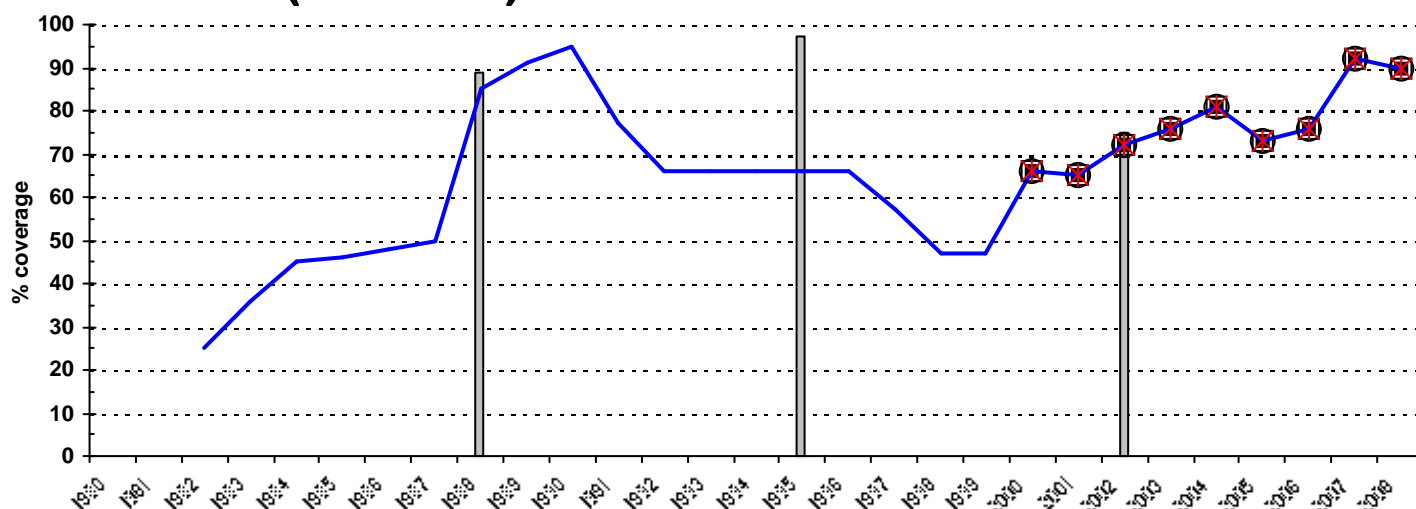
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Djibouti

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 2000 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. Estimates since 2000 are based on national reports confirmed by the 2002 survey point.

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	25						
1983	36						
1984	45						
1985	46						
1986	48						
1987	50						
1988	85					89	
1989	91						
1990	95						
1991	77						
1992	66						
1993	66						
1994	66						
1995	66					97	
1996	66						
1997	57						
1998	47						
1999	47						
2000	66	66	66	66	66		
2001	65	65	65	65	65		
2002	72	72	72	72	72	75	
2003	76	76	76	76	76		
2004	81	81	81	81	81		
2005	73	73	73	73	73		
2006	76	76	76	76	76		
2007	92	92	92	92	92		
2008	90	90	90	90	90		

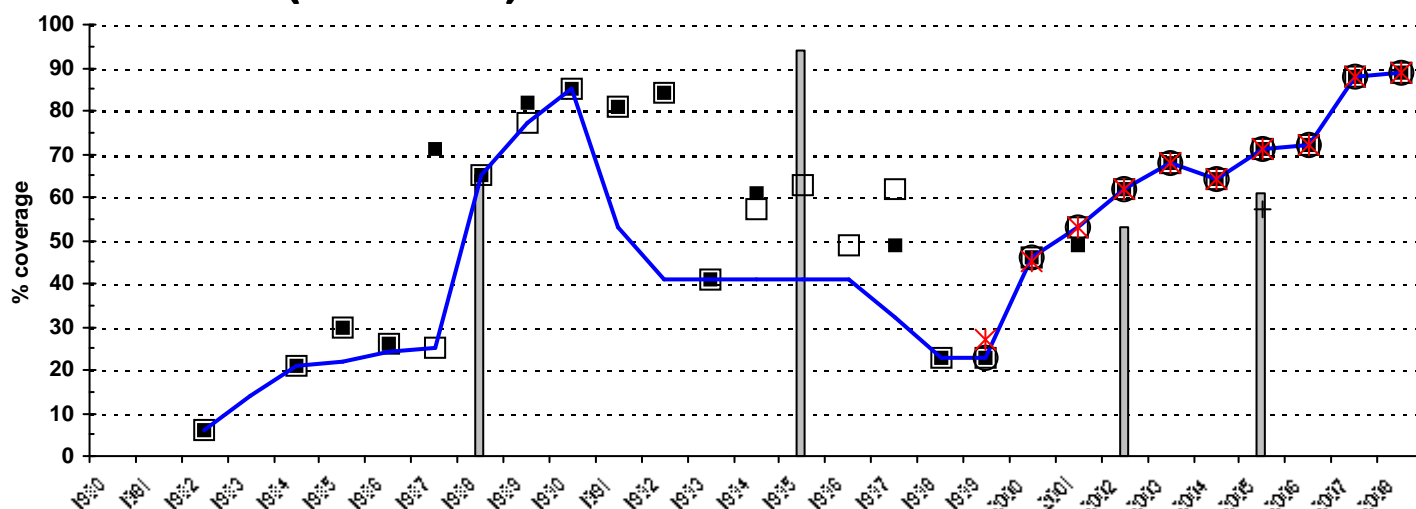
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

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Djibouti

DTP3 (1980-2008)



Description of trend

Estimated immunization coverage levels are based on reported data, supported by survey results. The reported data throughout the 1990s, however, seem to over-report coverage and are probably only applicable to southern districts following the eruption of conflict in the country. MICS 1996 seem to over-report coverage and are not considered (total sample drawn only from southern area of the country). The drop in the 1990s is due to a breakdown in the cold chain. Data for 2002 includes vaccinations given during catch-up campaign. Card retention for the 2002 and 2005 survey data are low and recall bias may lower survey coverage estimates for multiple dose vaccinations.

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	6	6	6				
1983	14						
1984	21	21	21				
1985	22	30	30				
1986	24	26	26				
1987	25	25	71				
1988	65	65	65			65	
1989	77	77	82				
1990	85	85	85				
1991	53	81	81				
1992	41	84	84				
1993	41	41	41				
1994	41	57	61				
1995	41	63				94	
1996	41	49					
1997	32	62	49				
1998	23	23	23				
1999	23	23	23	23	27		
2000	46	46	46	46	45		
2001	53	53	49	53	53		
2002	62	62	62	62	62	53	
2003	68	68	68	68	68		
2004	64	64	64	64	64		
2005	71	71	71	71	71	61	57
2006	72	72	72	72	72		
2007	88	88	88	88	88		
2008	89	89	89	89	89		

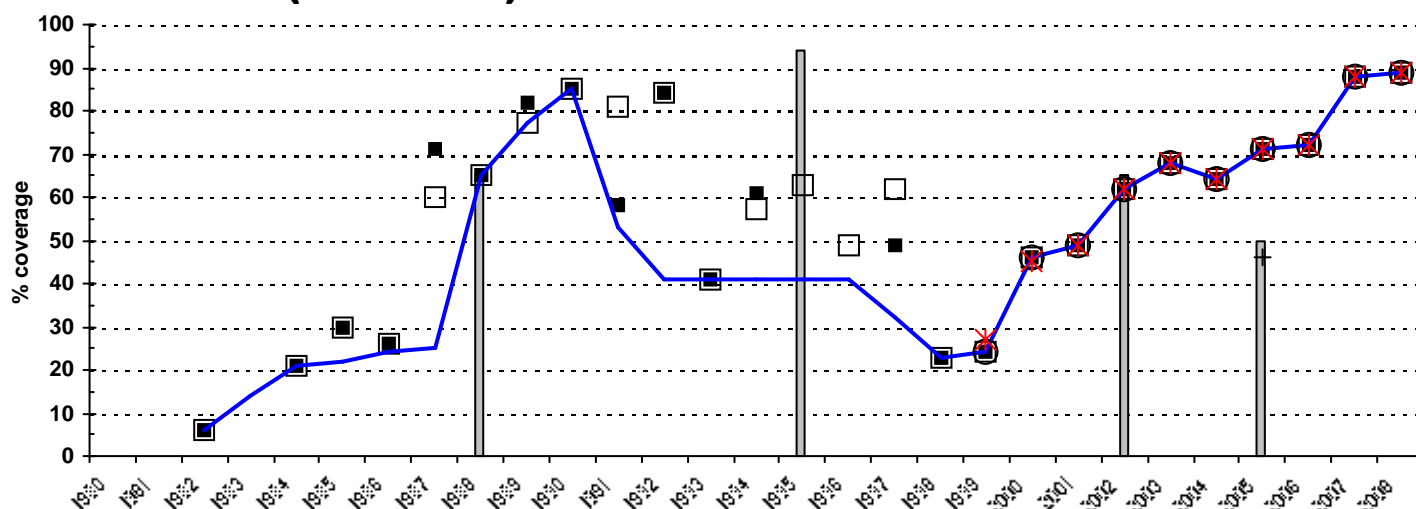
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Djibouti

Pol3 (1980-2008)



Description of trend

Estimated immunization coverage levels are based on reported data, supported by survey results. The reported data throughout the 1990s, however, seem to over-report coverage and are probably only applicable to southern districts following the eruption of conflict in the country. The MICS surveys seem to over-report coverage and are not considered (total sample drawn only from southern area of the country). The drop in the late 1990s is due to a breakdown in the cold chain. Data for 2002 includes vaccinations given during catch-up campaign. Card retention for the 2002 and 2005 surveys is low and recall bias may lower survey coverage estimates for multiple dose vaccinations. The 2005 Pol3 survey results most likely reflect the fourth dose of OPV (birth, 1, 2, 3) rather than a third dose.

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	6	6	6				
1983	14						
1984	21	21	21				
1985	22	30	30				
1986	24	26	26				
1987	25	60	71				
1988	65	65	65			65	
1989	77	77	82				
1990	85	85	85				
1991	53	81	58				
1992	41	84	84				
1993	41	41	41				
1994	41	57	61				
1995	41	63				94	
1996	41	49					
1997	32	62	49				
1998	23	23	23				
1999	24	24	24	24	27		
2000	46	46	46	46	45		
2001	49	49	49	49	49		
2002	62	62	62	62	62	65	
2003	68	68	68	68	68		
2004	64	64	64	64	64		
2005	71	71	71	71	71	50	46
2006	72	72	72	72	72		
2007	88	88	88	88	88		
2008	89	89	89	89	89		

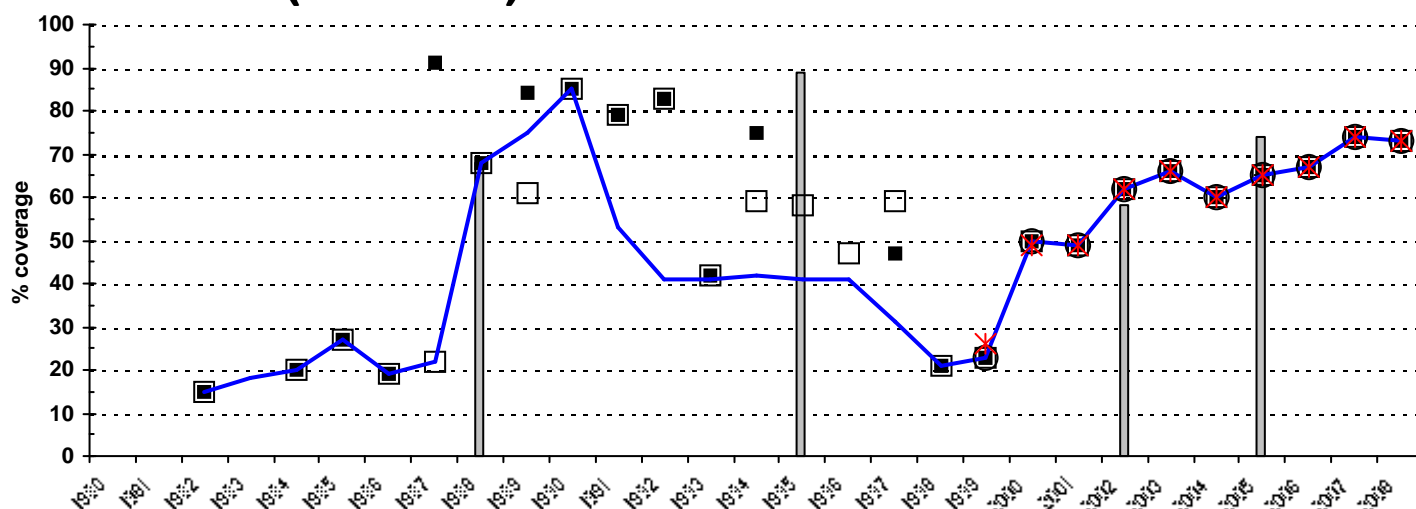
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

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

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Djibouti

MCV (1980-2008)



Description of trend

Estimated immunization coverage levels are based on reported data, supported by survey results. The reported data throughout the 1990s, however, seem to over-report coverage and are probably only applicable to southern districts following the eruption of conflict in the country. MICS 1996 seems to over-report coverage and is not considered (total sample drawn only from southern area of the country). The drop in the 1990s is due to a breakdown in the cold chain. Data for 2002 include vaccinations given during catch-up campaign.

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	15	15	15				
1983	18						
1984	20	20	20				
1985	27	27	27				
1986	19	19	19				
1987	22	22	91				
1988	68	68	68			68	
1989	75	61	84				
1990	85	85	85				
1991	53	79	79				
1992	41	83	83				
1993	41	42	42				
1994	42	59	75				
1995	41	58				89	
1996	41	47					
1997	31	59	47				
1998	21	21	21				
1999	23	23	23	23	26		
2000	50	50	50	50	49		
2001	49	49	49	49	49		
2002	62	62	62	62	62	58	
2003	66	66	66	66	66		
2004	60	60	60	60	60		
2005	65	65	65	65	65	74	65
2006	67	67	67	67	67		
2007	74	74	74	74	74		
2008	73	73	73	73	73		

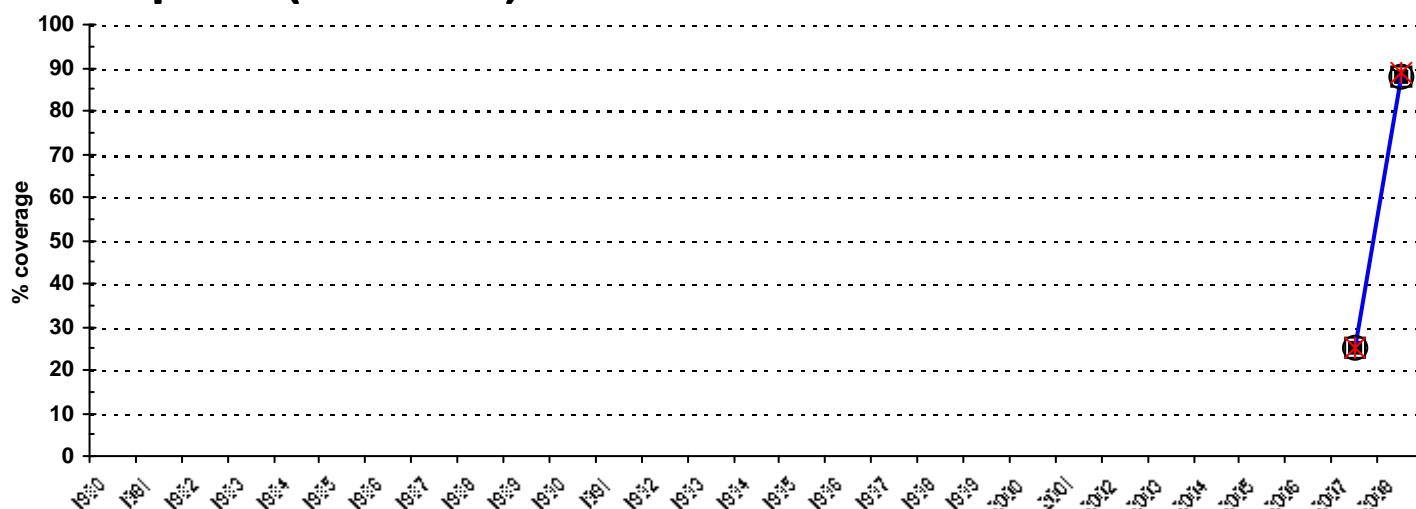
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Djibouti

HepB3 (1980-2008)



Description of trend

Pentavalent vaccine (DTP-Hip-Hib) was introduced in July of 2007.

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	25	25	25	25	25		
2008	88	88	88	88	89		

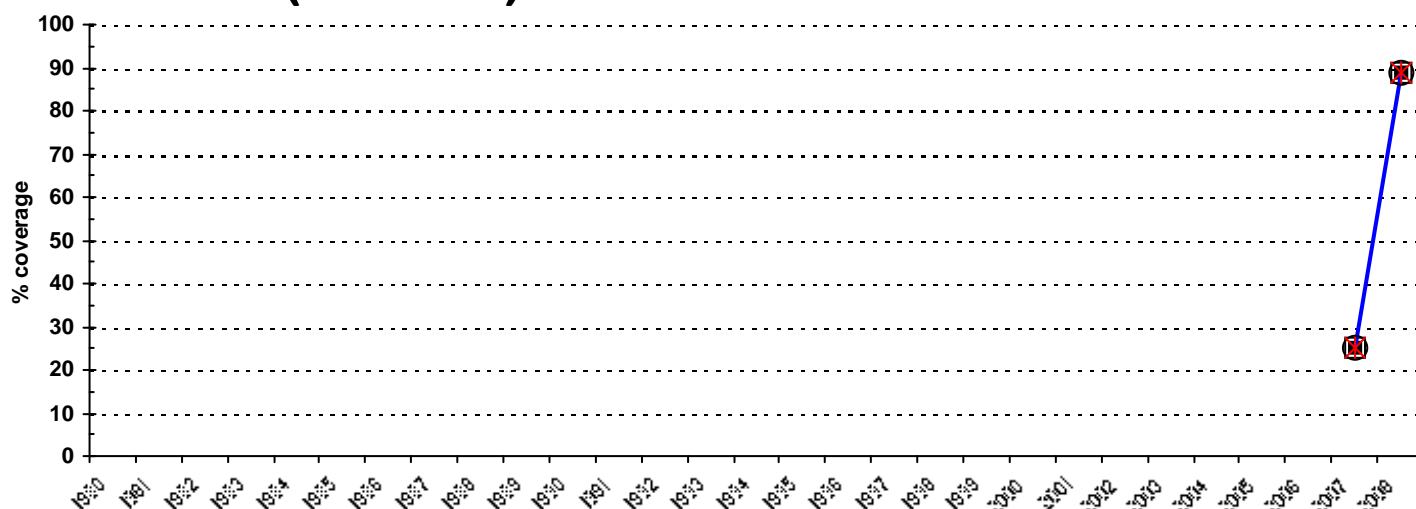
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Djibouti

Hib3 (1980-2008)



Description of trend

Pentavalent vaccine (DTP-HepB-Hib) was introduced in July of 2007.

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	25	25	25	25	25		
2008	89	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.

Djibouti

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
2005 L'Enquête Djiboutienne à Indicateurs Multiple (EDIM 2006)								
BCG	Card or History	87.5		12-23 m	450	46.4	2006	
BCG	C or H <12 month	87.5		12-23 m	450	46.4	2006	
DTP3	Card or History	61.2		12-23 m	450	46.4	2006	
DTP3	C or H <12 month	56.8		12-23 m	450	46.4	2006	
Pol3	Card or History	49.8		12-23 m	450	46.4	2006	
Pol3	C or H <12 month	46.2		12-23 m	450	46.4	2006	
MCV	Card or History	73.5		12-23 m	450	46.4	2006	
MCV	C or H <12 month	65		12-23 m	450	46.4	2006	
PAB	n.a.	70.4		CBAW			2006	
2002 Enquête Djiboutienne sur la Sante de la Famille, Rapport Preliminaire								
BCG	Card or History	76.8		12-23 m			2003	
DTP1	Card or History	74.6		12-23 m			2003	
DTP3	Card or History	53.1		12-23 m			2003	
Pol3	Card or History	65.2		12-23 m			2003	Polio 2
MCV	Card or History	58.1		12-23 m			2003	
1995 Enquête Djiboutienne auprès des Ménages Indicateurs sociaux (EDAM-IS 1996)								
BCG	Card or History	97.2		12-23 m			1996	
DTP1	Card or History	97.1		12-23 m			1996	
DTP3	Card or History	94.3		12-23 m			1996	
Pol3	Card or History	94.3		12-23 m			1996	
MCV	Card or History	88.9		12-23 m			1996	
1988 Immunization, Diarrhoeal Disease, Maternal and Child Mortality Survey, Djibouti, 1989, Evaluation Series No. 4								
BCG	Card or History	87		12-23 m		72	1989	Weighted
DTP1	Card or History	89		12-23 m		72	1989	Weighted
DTP3	Card or History	65		12-23 m		72	1989	Weighted
Pol3	Card or History	65		12-23 m		72	1989	Weighted
MCV	Card or History	68		12-23 m		72	1989	Weighted

Djibouti

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.

Djibouti

Year	PAB coverage estimate (%)
1980	
1981	
1982	
1983	
1984	17
1985	14
1986	12
1987	14
1988	58
1989	55
1990	80
1991	85
1992	87
1993	77
1994	55
1995	62
1996	68
1997	69
1998	53
1999	48
2000	46
2001	54
2002	57
2003	59
2004	65
2005	71
2006	77
2007	79
2008	79