

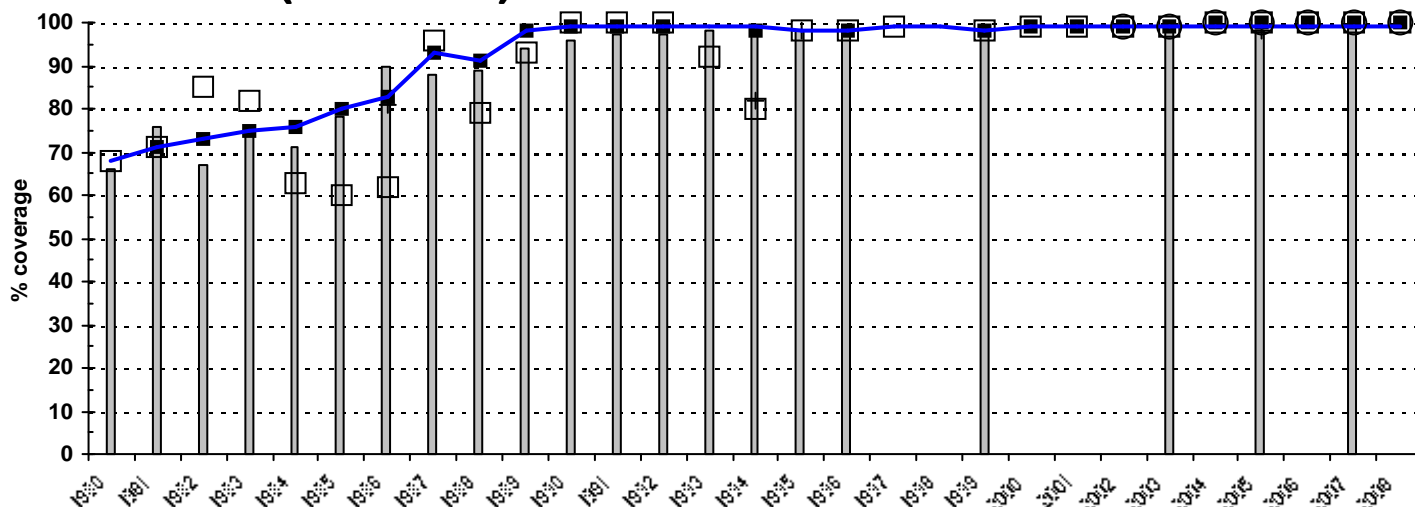
**WHO/UNICEF
Review of National Immunization Coverage
1980-2008**

Thailand

July, 2009

Thailand

BCG (1980-2008)



Description of trend

Estimated immunization coverage levels are based on reported data, supported by 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	68	68				66	
1981	71	71	71			76	
1982	73	85	73			67	
1983	75	82	75			74	
1984	76	63	76			71	
1985	80	60	80			78	
1986	83	62	83			90	81
1987	93	96	93			88	
1988	91	79	91			89	
1989	98	93	98			94	
1990	99	100	99			96	
1991	99	100	99			97	
1992	99	100	99			97	
1993	99	92				98	
1994	99	80	98			98	82
1995	98	98				98	98
1996	98	98	98			98	
1997	99	99					
1998	99						
1999	98	98	98			99	
2000	99	99	99				
2001	99	99	99				
2002	99	99	99	99			
2003	99	99	99	99		100	
2004	99	100	100	100			
2005	99	100	100	100		98	98
2006	99	100	100	100			
2007	99	100	100	100		100	
2008	99	100	100	100			

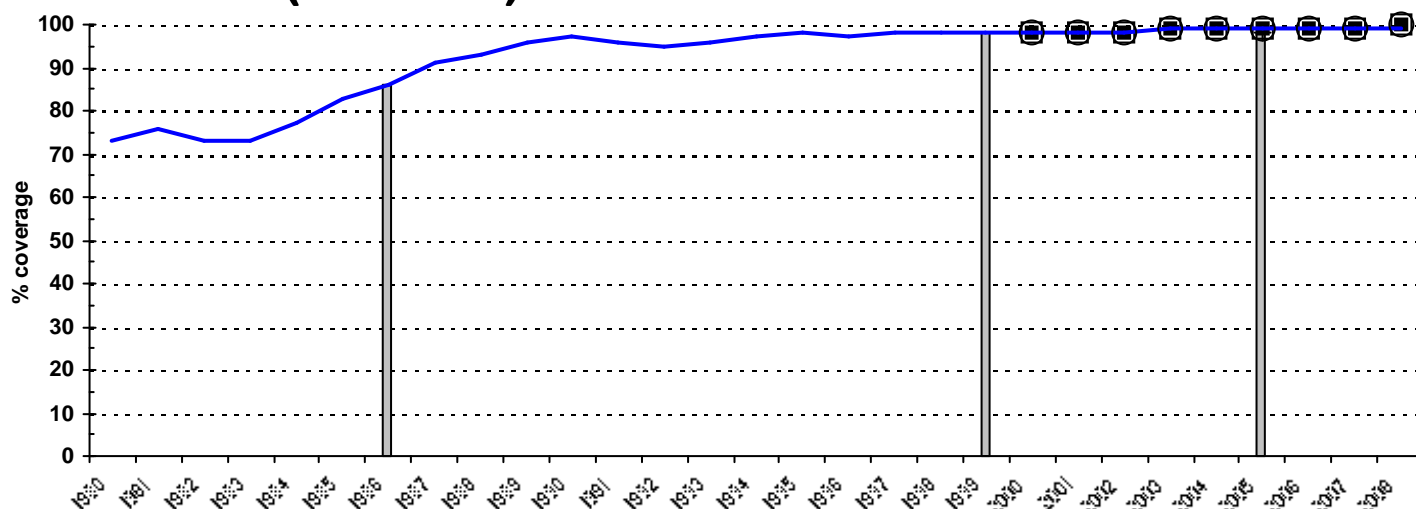
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Thailand

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 2000-2004 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.

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	73						
1981	76						
1982	73						
1983	73						
1984	77						
1985	83						
1986	86					86	
1987	91						
1988	93						
1989	96						
1990	97						
1991	96						
1992	95						
1993	96						
1994	97						
1995	98						
1996	97						
1997	98						
1998	98						
1999	98					98	
2000	98	98	98	98			
2001	98	98	98	98			
2002	98	98	98	98			
2003	99	99	99	99			
2004	99	99	99	99			
2005	99	99	99	99		98	98
2006	99	99	99	99			
2007	99	99	99	99			
2008	99	100	100	100			

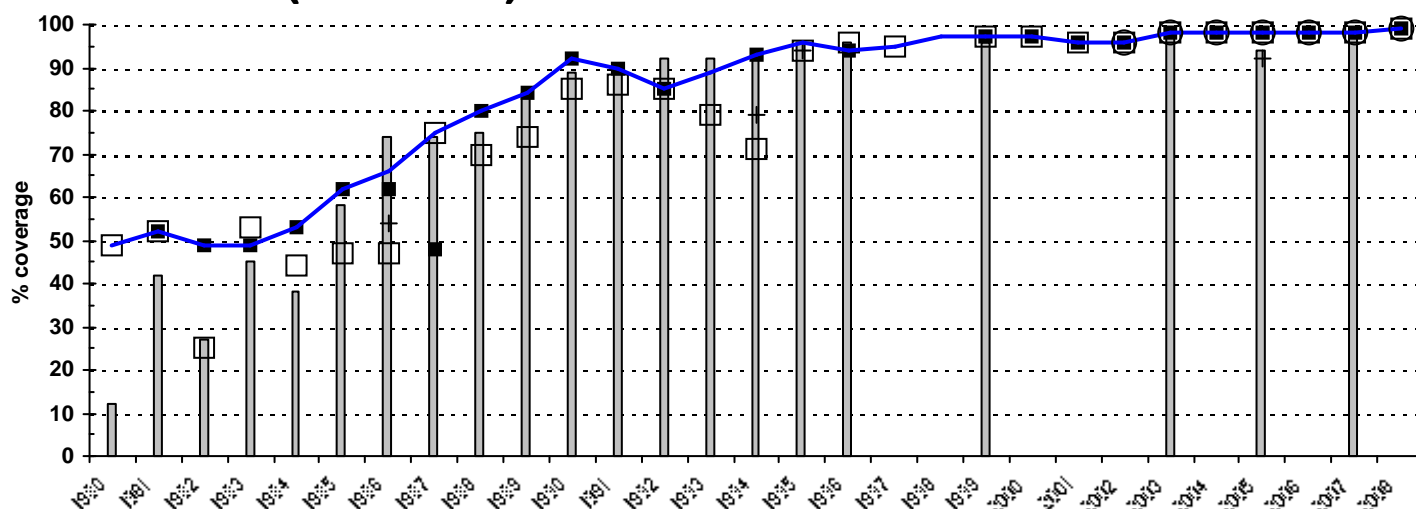
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Thailand

DTP3 (1980-2008)



Description of trend

Estimated immunization coverage levels are based on reported data, supported by 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	49	49				12	
1981	52	52	52			42	
1982	49	25	49			27	
1983	49	53	49			45	
1984	53	44	53			38	
1985	62	47	62			58	
1986	66	47	62			74	54
1987	75	75	48			74	
1988	80	70	80			75	
1989	84	74	84			84	
1990	92	85	92			89	
1991	90	86	90			90	
1992	85	85	85			92	
1993	89	79				92	
1994	93	71	93			93	79
1995	96	94				96	94
1996	94	96	94			96	
1997	95	95					
1998	97						
1999	97	97	97			96	
2000	97	97	97				
2001	96	96	96				
2002	96	96	96	96			
2003	98	98	98	98		98	
2004	98	98	98	98			
2005	98	98	98	98		94	92
2006	98	98	98	98			
2007	98	98	98	98		99	
2008	99	99	99	99			

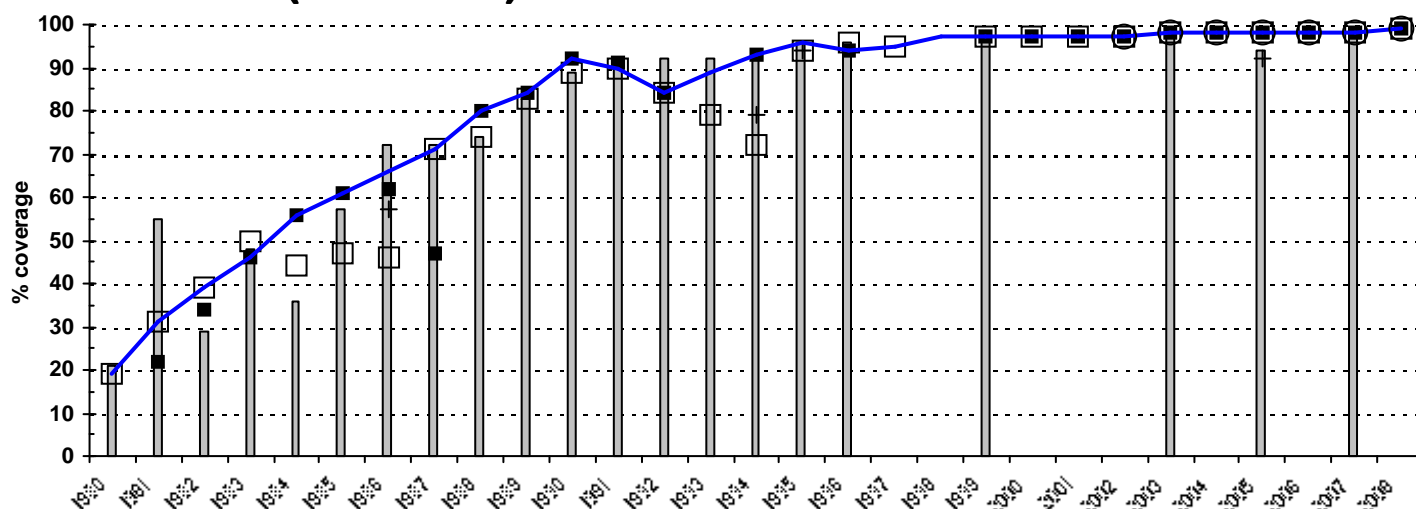
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Thailand

Pol3 (1980-2008)



Description of trend

Estimated immunization coverage levels are based on reported data, supported by 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	19	19				21	
1981	31	31	22			55	
1982	39	39	34			29	
1983	46	50	46			48	
1984	56	44	56			36	
1985	61	47	61			57	
1986	66	46	62			72	57
1987	71	71	47			72	
1988	80	74	80			74	
1989	84	83	84			83	
1990	92	89	92			89	
1991	90	90	91			90	
1992	84	84	84			92	
1993	89	79				92	
1994	93	72	93			93	79
1995	96	94				96	94
1996	94	96	94			96	
1997	95	95					
1998	97						
1999	97	97	97			97	
2000	97	97	97				
2001	97	97	97				
2002	97	97	97	97			
2003	98	98	98	98		98	
2004	98	98	98	98			
2005	98	98	98	98		94	92
2006	98	98	98	98			
2007	98	98	98	98		99	
2008	99	99	99	99			

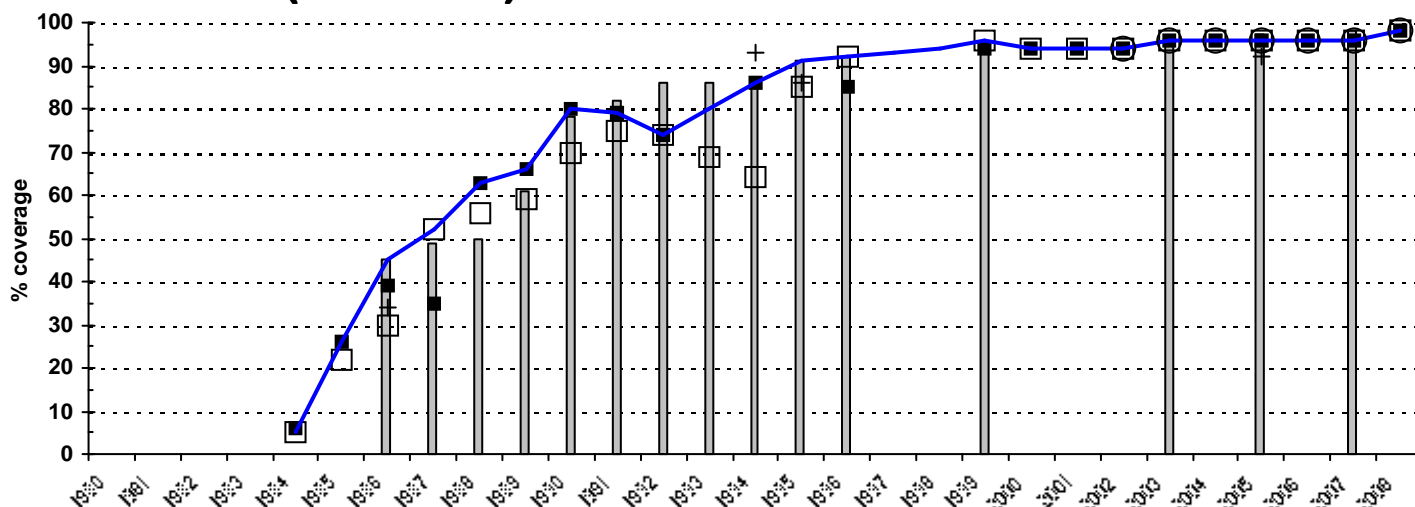
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Thailand

MCV (1980-2008)



Description of trend

Estimated immunization coverage levels are based on reported data, supported by 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	5	5	6				
1985	26	22	26				
1986	45	30	39			45	34
1987	52	52	35			49	
1988	63	56	63			50	
1989	66	59	66			61	
1990	80	70	80			78	
1991	79	75	79			82	
1992	74	74	74			86	
1993	80	69				86	
1994	86	64	86			86	93
1995	91	85				91	86
1996	92	92	85			92	
1997	93						
1998	94						
1999	96	96	94			94	
2000	94	94	94				
2001	94	94	94				
2002	94	94	94	94			
2003	96	96	96	96		96	
2004	96	96	96	96			
2005	96	96	96	96		97	92
2006	96	96	96	96			
2007	96	96	96	96		98	
2008	98	98	98	98			

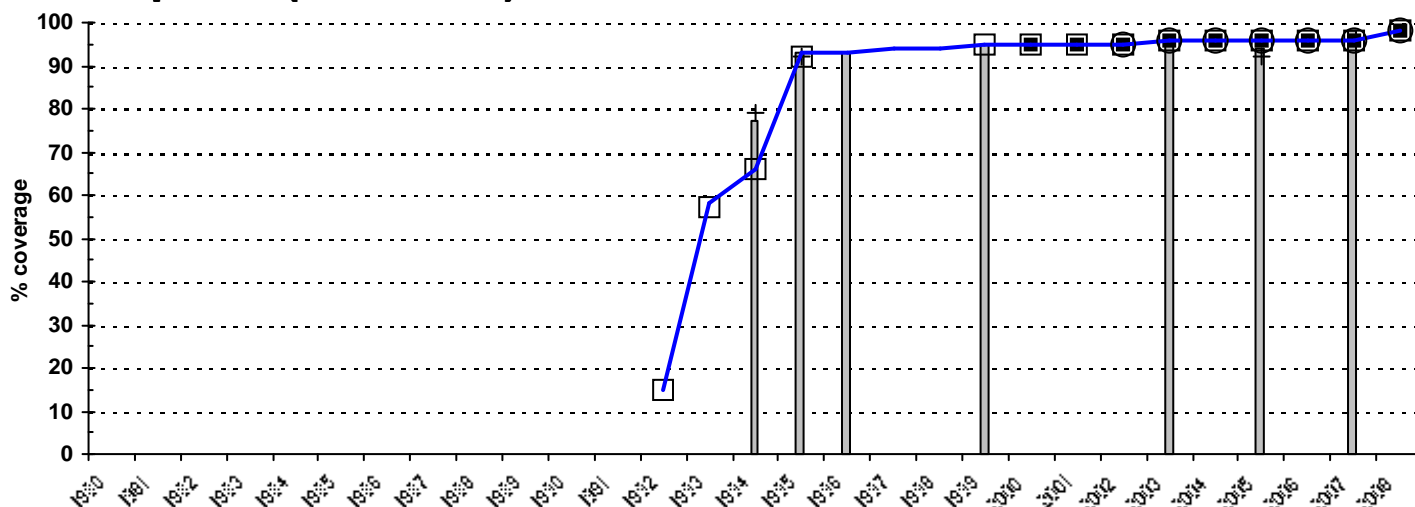
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**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.

Thailand

HepB3 (1980-2008)



Description of trend

Hepatitis B vaccine introduced in 1988 and was available nationally in 1992. Estimated immunization coverage levels are based on reported supported by 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	15	15					
1993	58	57					
1994	66	66				77	79
1995	93	92				93	92
1996	93					93	
1997	94						
1998	94						
1999	95	95				95	
2000	95	95	95				
2001	95	95	95				
2002	95	95	95	95			
2003	96	96	96	96		96	
2004	96	96	96	96			
2005	96	96	96	96		94	92
2006	96	96	96	96			
2007	96	96	96	96		98	
2008	98	98	98	98			

*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.

Thailand

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
2007 Immunization Coverage Survey: Thailand 2008								
BCG	Card or History	99.9		12-23 m	1800	97.4	2008	
DTP3	Card or History	98.7		12-23 m	1800	97.4	2008	
Pol3	Card or History	98.7		12-23 m	1800	97.4	2008	
MCV	Card or History	98.1		12-23 m	1800	97.4	2008	
HepB	Card or History	98.3		12-23 m	1800	97.4	2008	
2005 Thailand Multiple Indicator Cluster Survey, December 2005 – February 2006								
BCG	Card or History	98.2		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
BCG	C or H <12 month	98.1		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
DTP1	Card or History	98.4		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
DTP1	C or H <12 month	98		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
DTP3	Card or History	94.4		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
DTP3	C or H <12 month	92.3		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
Pol3	Card or History	93.7		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
Pol3	C or H <12 month	91.6		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
MCV	Card or History	96.9		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
MCV	C or H <12 month	92.1		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
HepB	Card or History	94.4		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
HepB	C or H <12 month	91.6		12-23 m	1895	88.4	2005/2006	coverage results recalculated excluding "don't knows".
PAB	n.a.	89.2		CBAW			2005/2006	
2003 Immunization Coverage Survey: Thailand 2003								
BCG	Card or History	99.5		12-23 m	2520	98.1	2003	
DTP3	Card or History	97.6		12-23 m	2520	98.1	2003	
Pol3	Card or History	97.6		12-23 m	2520	98.1	2003	
MCV	Card or History	96.1		12-23 m	2520	98.1	2003	
HepB	Card or History	96		12-23 m	2520	98.1	2003	
1999 Immunization Coverage Survey: Thailand 1999								
BCG	Card or History	98.7		12-23 m	3369	93.9	1999	
DTP1	Card or History	98.5		12-23 m	3369	93.9	1999	
DTP3	Card or History	96.5		12-23 m	3369	93.9	1999	
Pol3	Card or History	96.6		12-23 m	3369	93.9	1999	
MCV	Card or History	94.2		12-23 m	3369	93.9	1999	
HepB	Card or History	95.4		12-23 m	3369	93.9	1999	
1996 MOH, reported in response to draft estimates, June 2001.								
BCG	Card or History	98.3		12-23 m	3150	90.6	1996	Confirmation method assumed
DTP3	Card or History	95.7		12-23 m	3150	90.6	1996	Confirmation method assumed
Pol3	Card or History	95.7		12-23 m	3150	90.6	1996	Confirmation method assumed
MCV	Card or History	91.7		12-23 m	3150	90.6	1996	Confirmation method assumed
HepB	Card or History	93.4		12-23 m	3150	90.6	1996	Confirmation method assumed
1995 MOH, reported in response to draft estimates, June 2001.								
BCG	Card or History	98.4		12-23 m	5257		1995	Confirmation method assumed
DTP3	Card or History	93.7		12-23 m	5257		1995	Confirmation method assumed
Pol3	Card or History	93.7		12-23 m	5257		1995	Confirmation method assumed
MCV	Card or History	89.8		12-23 m	5257		1995	Confirmation method assumed
HepB	Card or History	87.9		12-23 m	5257		1995	Confirmation method assumed

Thailand

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
1995 UNICEF Reporting Form for Immunization and Case Reporting, 1996								
BCG	Card or History	98.3		12-23 m		90.6	1996	
BCG	C or H <12 month	98.3		12-23 m		90.6	1996	
DTP1	Card or History			12-23 m		90.6	1996	
DTP1	C or H <12 month			12-23 m		90.6	1996	
DTP3	Card or History	95.6		12-23 m		90.6	1996	
DTP3	C or H <12 month	94.3		12-23 m		90.6	1996	
Pol3	Card or History	95.6		12-23 m		90.6	1996	
Pol3	C or H <12 month	94.2		12-23 m		90.6	1996	
MCV	Card or History	91.4		12-23 m		90.6	1996	
MCV	C or H <12 month	85.5		12-23 m		90.6	1996	
HepB	Card or History	93.1		12-23 m		90.6	1996	Assumed Hep B3
HepB	C or H <12 month	92.1		12-23 m		90.6	1996	Assumed Hep B3
1994 MOH, reported in response to draft estimates, June 2001.								
BCG	Card or History	98		12-23 m	5045		1994	Confirmation method assumed
DTP3	Card or History	92.9		12-23 m	5045		1994	Confirmation method assumed
Pol3	Card or History	92.7		12-23 m	5045		1994	Confirmation method assumed
MCV	Card or History	85.9		12-23 m	5045		1994	Confirmation method assumed
HepB	Card or History	77.4		12-23 m	5045		1994	Confirmation method assumed
1994 Provincial Health Survey I, 1995								
BCG	C or H <12 month	82.3		12-23 m			1995	Communication from Unicef Country Office to HQ to only use national data due to sampling issues
DTP1	C or H <12 month			12-23 m			1995	
DTP3	C or H <12 month	79.3		12-23 m			1995	
Pol3	C or H <12 month	79.1		12-23 m			1995	
MCV	C or H <12 month	92.7		12-23 m			1995	
HepB	C or H <12 month	79.3		12-23 m			1995	
1993 MOH, reported in response to draft estimates, June 2001.								
BCG	Card or History	98.2		12-23 m	5253		1993	Confirmation method assumed
DTP3	Card or History	92.2		12-23 m	5253		1993	Confirmation method assumed
Pol3	Card or History	92.2		12-23 m	5253		1993	Confirmation method assumed
MCV	Card or History	86.2		12-23 m	5253		1993	Confirmation method assumed
1992 MOH, reported in response to draft estimates, June 2001.								
BCG	Card or History	97.4		12-23 m			1992	Confirmation method assumed
DTP3	Card or History	91.5		12-23 m			1992	Confirmation method assumed
Pol3	Card or History	91.5		12-23 m			1992	Confirmation method assumed
MCV	Card or History	86.3		12-23 m			1992	Confirmation method assumed
1991 MOH, reported in response to draft estimates, June 2001.								
BCG	Card or History	96.8		12-23 m			1991	Confirmation method assumed
DTP3	Card or History	89.8		12-23 m			1991	Confirmation method assumed
Pol3	Card or History	89.8		12-23 m			1991	Confirmation method assumed
MCV	Card or History	81.5		12-23 m			1991	Confirmation method assumed
1990 MOH, reported in response to draft estimates, June 2001.								
BCG	Card or History	96.3		12-23 m	6305	78.9	1990	Confirmation method assumed

Thailand

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
DTP3	Card or History	89.2		12-23 m	6305	78.9	1990	Confirmation method assumed
Pol3	Card or History	89.3		12-23 m	6305	78.9	1990	Confirmation method assumed
MCV	Card or History	78		12-23 m	6305	78.9	1990	Confirmation method assumed

1989 EPI Coverage Survey Thailand 1990

DTP1	Card or History			12-23 m		73.3	1990	
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1989 MOH, reported in response to draft estimates, August 2005

BCG	Card or History	94.1		12-23 m	6723		1989	Confirmation method assumed
DTP3	Card or History	84.2		12-23 m	6723		1989	Confirmation method assumed
Pol3	Card or History	83.2		12-23 m	6723		1989	Confirmation method assumed
MCV	Card or History	61.4		12-23 m	6723		1989	Confirmation method assumed

1988 MOH, reported in response to draft estimates, June 2001.

BCG	Card or History	88.8		12-23 m			1988	Confirmation method assumed
DTP3	Card or History	74.6		12-23 m			1988	Confirmation method assumed
Pol3	Card or History	73.8		12-23 m			1988	Confirmation method assumed
MCV	Card or History	50.4		12-23 m			1988	Confirmation method assumed

1987 MOH, reported in response to draft estimates, June 2001.

BCG	Card or History	87.6		12-23 m			1987	Confirmation method assumed
DTP3	Card or History	74.1		12-23 m			1987	Confirmation method assumed
Pol3	Card or History	71.9		12-23 m			1987	Confirmation method assumed
MCV	Card or History	48.6		12-23 m			1987	Confirmation method assumed

1986 Demographic and Health Surveys Comparative Studies No. 1, Immunization, Boerma et al., Institute for Resource Development/Macro Systems, 1990

BCG	Card or History	83		12-23 m	759	36	1987	
BCG	C or H <12 month	81		12-23 m	759	36	1987	
DTP1	Card or History	86		12-23 m	759	36	1987	
DTP1	C or H <12 month			12-23 m	759	36	1987	
DTP3	Card or History	66		12-23 m	759	36	1987	
DTP3	C or H <12 month	54		12-23 m	759	36	1987	
Pol3	Card or History	66		12-23 m	759	36	1987	
Pol3	C or H <12 month	57		12-23 m	759	36	1987	
MCV	Card or History	45		12-23 m	759	36	1987	
MCV	C or H <12 month	34		12-23 m	759	36	1987	

1986 MOH, reported in response to draft estimates, June 2001.

BCG	Card or History	90.4		12-23 m			1986	Confirmation method assumed
DTP3	Card or History	74		12-23 m			1986	Confirmation method assumed
Pol3	Card or History	71.8		12-23 m			1986	Confirmation method assumed

1985 MOH, reported in response to draft estimates, June 2001.

BCG	Card or History	78		12-23 m			1985	Confirmation method assumed
DTP3	Card or History	57.7		12-23 m			1985	Confirmation method assumed
Pol3	Card or History	56.8		12-23 m			1985	Confirmation method assumed

1984 MOH, reported in response to draft estimates, June 2001.

BCG	Card or History	70.6		12-23 m			1984	Confirmation method assumed
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Thailand

Details Survey Data

Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
DTP3	Card or History	38		12-23 m			1984	Confirmation method assumed
Pol3	Card or History	35.6		12-23 m			1984	Confirmation method assumed

1983 MOH, reported in response to draft estimates, June 2001.

BCG	Card or History	74.2		12-23 m			1983	Confirmation method assumed
DTP3	Card or History	45.3		12-23 m			1983	Confirmation method assumed
Pol3	Card or History	48.1		12-23 m			1983	Confirmation method assumed

1982 MOH, reported in response to draft estimates, June 2001.

BCG	Card or History	67.2		12-23 m			1982	Confirmation method assumed
DTP3	Card or History	26.8		12-23 m			1982	Confirmation method assumed
Pol3	Card or History	29.2		12-23 m			1982	Confirmation method assumed

1981 MOH, reported in response to draft estimates, June 2001.

BCG	Card or History	75.5		12-23 m			1981	Confirmation method assumed
DTP3	Card or History	41.9		12-23 m			1981	Confirmation method assumed
Pol3	Card or History	55		12-23 m			1981	Confirmation method assumed

1980 MOH, reported in response to draft estimates, June 2001.

BCG	Card or History	66.1		12-23 m			1980	Confirmation method assumed
DTP3	Card or History	12.3		12-23 m			1980	Confirmation method assumed
Pol3	Card or History	21.2		12-23 m			1980	Confirmation method assumed

Thailand

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.

Thailand

Year	PAB coverage estimate (%)
1980	25
1981	32
1982	39
1983	43
1984	38
1985	41
1986	40
1987	62
1988	60
1989	67
1990	75
1991	74
1992	76
1993	71
1994	84
1995	87
1996	83
1997	82
1998	83
1999	85
2000	85
2001	86
2002	86
2003	88
2004	88
2005	88
2006	88
2007	89
2008	91