

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

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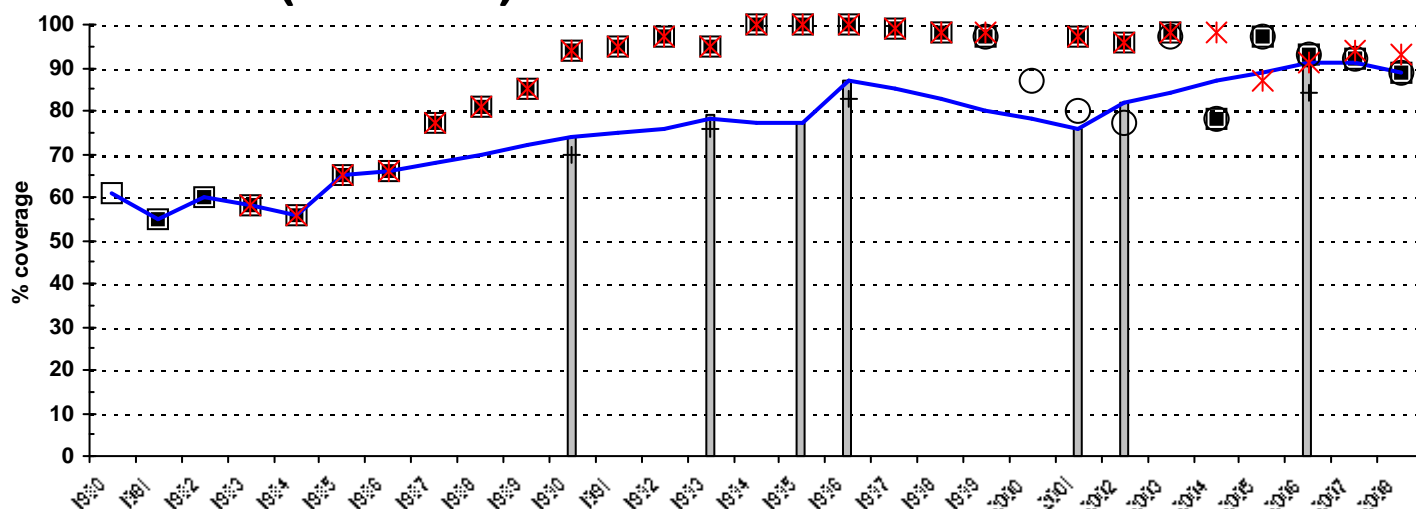
***Indonesia***

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**July, 2009**

# Indonesia

## BCG (1980-2008)



### Description of trend

Trend follows officially reported data in the early 1980s. Since 1990 the trend and level is established by survey data (DHS 1991, DHS 1994, MICS 1996, DHS 2002/3) and the 2007 national immunization coverage survey. 2006 DHS survey results are slightly lower than the 2006 National Immunization Coverage Survey results but are based on significantly lower sample size and lower card retention. The DHS 2006 results were not confirmed by reference to health facility records. The 2008 estimate is based on government estimates.

### 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	61	61					
1981	55	55	55				
1982	60	60	60				
1983	58	58	58		58		
1984	56	56	56		56		
1985	65	65	65		65		
1986	66	66	66		66		
1987	68	77	77		77		
1988	70	81	81		81		
1989	72	85	85		85		
1990	74	94	94		94	74	70
1991	75	95	95		95		
1992	76	97	97		97		
1993	78	95	95		95	79	76
1994	77	100	100		100		
1995	77	100	100		100	77	
1996	87	100	100		100	87	83
1997	85	99	99		99		
1998	83	98	98		98		
1999	80	97	97	97	98		
2000	78	101	101	87	101		
2001	76	97	97	80	97	76	
2002	82	96	96	77	96	82	
2003	84	98	98	97	98		
2004	87	78	78	78	98		
2005	89	97	97	97	87		
2006	91	93	93	93	91	91	84
2007	91	92	92	92	94		
2008	89	89	89	89	93		

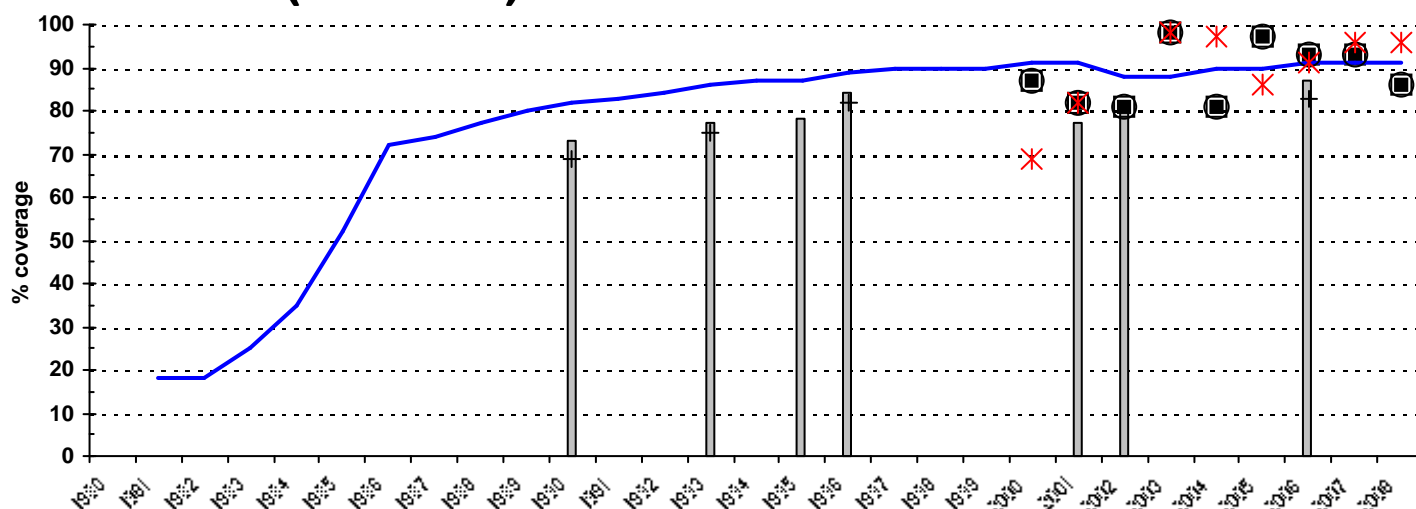
\*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

\*\*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.

# Indonesia

## 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 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. 2006 DHS survey results are slightly lower than the 2006 National Immunization Coverage Survey results are based on significantly lower sample size and lower card retention. The DHS 2006 results were not confirmed by reference to health facility records.

### 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						
1982	18						
1983	25						
1984	35						
1985	52						
1986	72						
1987	74						
1988	77						
1989	80						
1990	82					73	69
1991	83						
1992	84						
1993	86					77	75
1994	87						
1995	87					78	
1996	89					84	82
1997	90						
1998	90						
1999	90						
2000	91	87	87	87	69		
2001	91	82	82	82	82	77	
2002	88	81	81	81	102	81	
2003	88	98	98	98	98		
2004	90	81	81	81	97		
2005	90	97	97	97	86		
2006	91	93	93	93	91	87	83
2007	91	93	93	93	96		
2008	91	86	86	86	96		

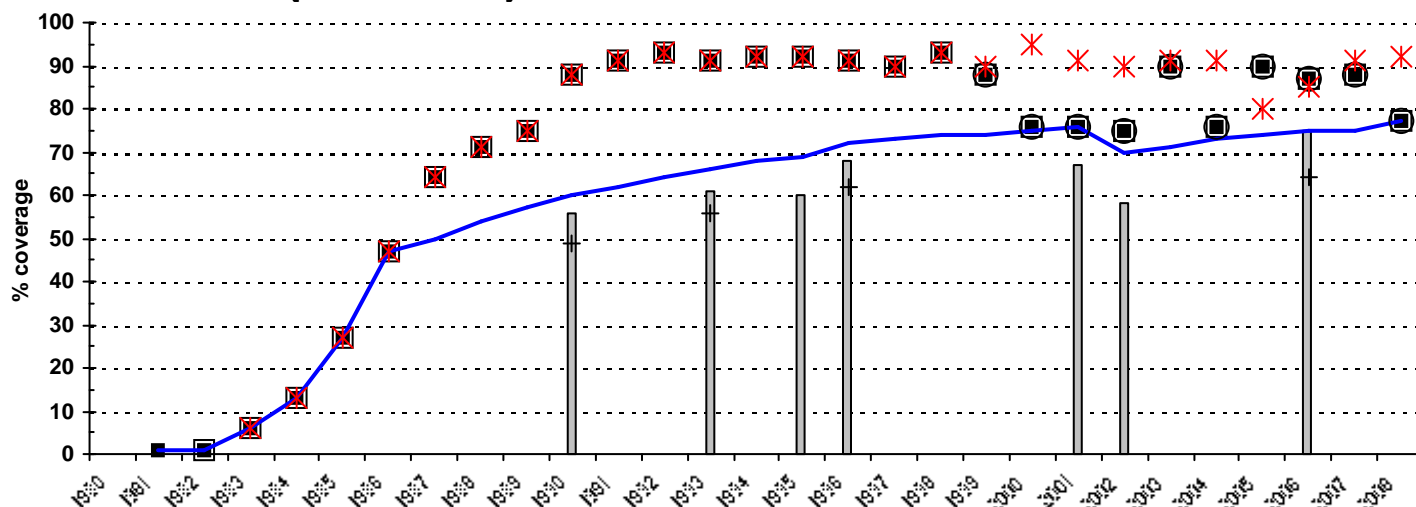
\*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

\*\*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.

# Indonesia

## DTP3 (1980-2008)



### Description of trend

Trend follows officially reported data in the early 1980s. Since 1990 coverage levels and trend are based on survey results, adjusted upwards recall bias. Estimates from 2002 onward are based on survey results from the DHS 2002/2003 adjusted for recall bias and the 2007 national immunization coverage survey. Data to calculate recall bias were not available for the 2007 coverage survey. 2006 DHS survey results are slightly lower than the 2006 National Immunization Coverage Survey results but are based on significantly lower sample size and lower card retention. The DHS 2006 results were not confirmed by reference to health facility records. The 2008 estimate is based on government estimates.

### 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	1		1				
1982	1	1	1				
1983	6	6	6		6		
1984	13	13	13		13		
1985	27	27	27		27		
1986	47	47	47		47		
1987	50	64	64		64		
1988	54	71	71		71		
1989	57	75	75		75		
1990	60	88	88		88	56	49
1991	62	91	91		91		
1992	64	93	93		93		
1993	66	91	91		91	61	56
1994	68	92	92		92		
1995	69	92	92		92	60	
1996	72	91	91		91	68	62
1997	73	90	90		90		
1998	74	93	93		93		
1999	74	88	88	88	90		
2000	75	76	76	76	95		
2001	76	76	76	76	91	67	
2002	70	75	75	75	90	58	
2003	71	90	90	90	91		
2004	73	76	76	76	91		
2005	74	90	90	90	80		
2006	75	87	87	87	85	75	64
2007	75	88	88	88	91		
2008	77	77	77	77	92		

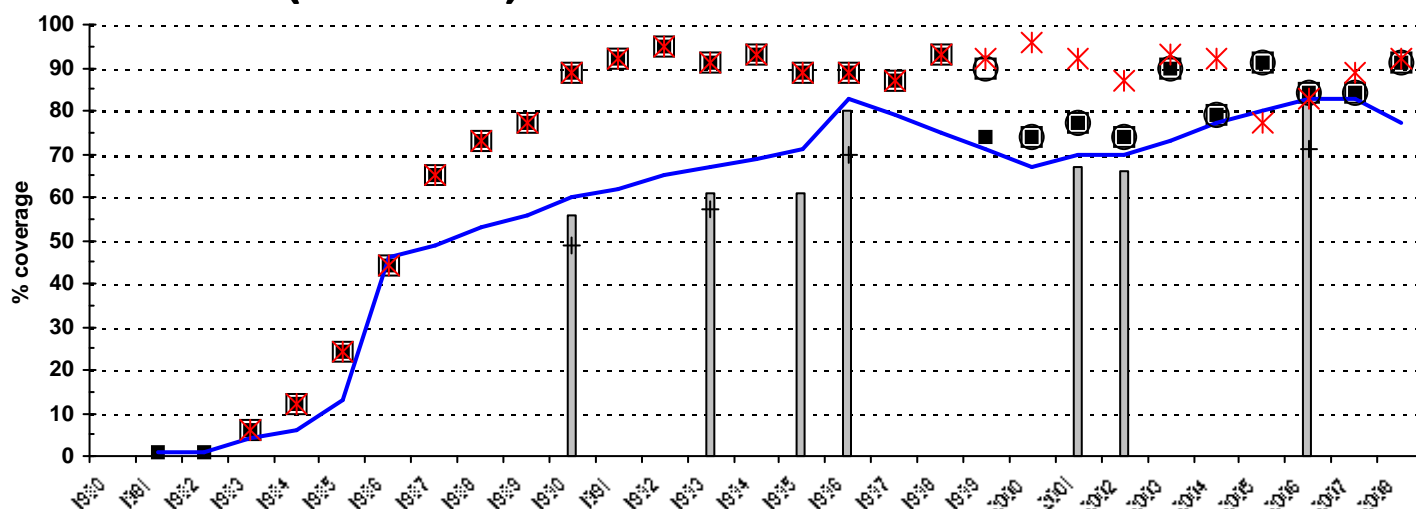
\*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

\*\*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.

# Indonesia

## Pol3 (1980-2008)



### Description of trend

Trend follows officially reported data in the early 1980s. Since 1990 coverage levels and trend are based on survey results, adjusted upwards recall bias. Estimates from 2002 onward are based on survey results from the DHS 2002/2003 adjusted for recall bias and the 2007 National immunization coverage survey. Data to calculate recall bias were not available for the 2007 coverage survey. In areas where polio campaigns conducted during 2006-2007 some vaccinations may have been recorded on the card or mothers may have reported campaign doses as received through routine services. 2006 DHS survey results are slightly lower than the 2007 National Immunization Coverage Survey results but are significantly lower sample size and lower card retention. The DHS 2006 results were not confirmed by reference to health facility records. 200 estimates are based on estimated DTP3.

### 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	1		1				
1982	1		1				
1983	4	6	6		6		
1984	6	12	12		12		
1985	13	24	24		24		
1986	46	44	44		44		
1987	49	65	65		65		
1988	53	73	73		73		
1989	56	77	77		77		
1990	60	89	89		89	56	49
1991	62	92	92		92		
1992	65	95	95		95		
1993	67	91	91		91	61	57
1994	69	93	93		93		
1995	71	89	89		89	61	
1996	83	89	89		89	80	70
1997	79	87	87		87		
1998	75	93	93		93		
1999	71	90	74	90	92		
2000	67	74	74	74	96		
2001	70	77	77	77	92	67	
2002	70	74	74	74	87	66	
2003	73	90	90	90	93		
2004	77	79	79	79	92		
2005	80	91	91	91	77		
2006	83	84	84	84	83	83	71
2007	83	84	84	84	89		
2008	77	91	91	91	92		

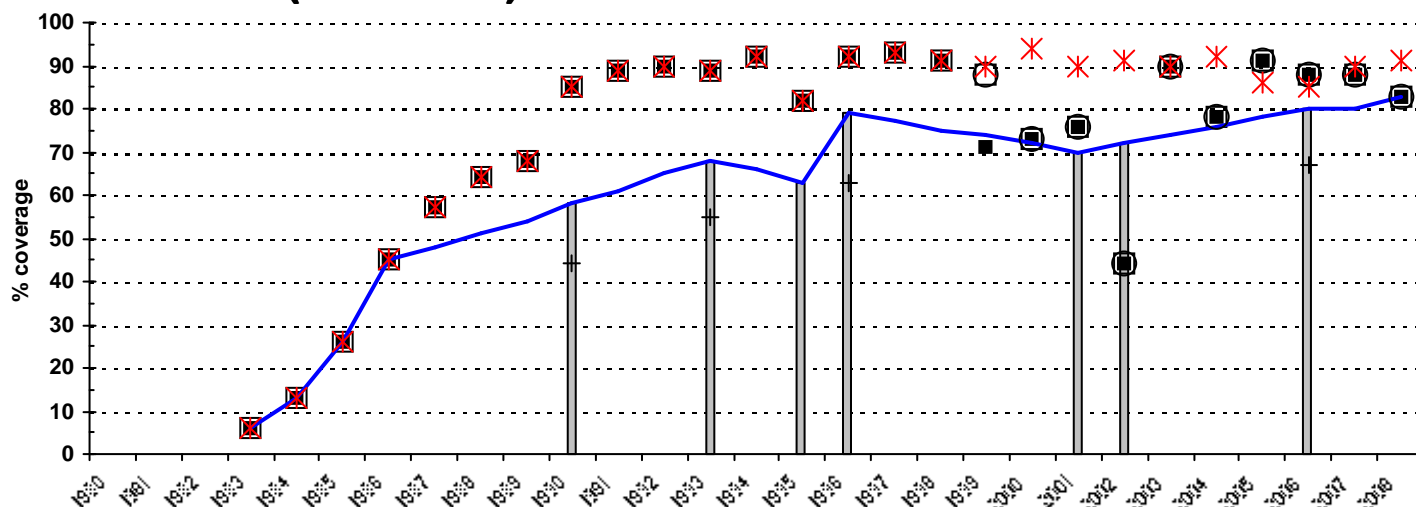
\*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

\*\*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.

# Indonesia

## MCV (1980-2008)



### Description of trend

Trend follows officially reported data in the early 1980s. Since 1990 the trend and level is established by survey data (DHS 1991, DHS 1994, MICS 1996, DHS 2002/3). Estimates from 2002 onward are based on survey results from the DHS 2002/2003 adjusted for recall bias and the 2007 National immunization coverage survey. In areas where measles campaigns were conducted during 2006-2007 some vaccinations may have been recorded on the card or mothers may have reported campaign doses as received through routine services. 2006 DHS survey results are slightly lower than the 2007 National Immunization Coverage Survey results but are based on significantly lower sample size and lower card retention. The DHS 2006 results were not confirmed by reference to health facility records. The 2008 estimate is based on government estimate.

### 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	6	6	6		6		
1984	13	13	13		13		
1985	26	26	26		26		
1986	45	45	45		45		
1987	48	57	57		57		
1988	51	64	64		64		
1989	54	68	68		68		
1990	58	85	85		85	58	44
1991	61	89	89		89		
1992	65	90	90		90		
1993	68	89	89		89	68	55
1994	66	92	92		92		
1995	63	82	82		82	63	
1996	79	92	92		92	79	63
1997	77	93	93		93		
1998	75	91	91		91		
1999	74	88	71	88	90		
2000	72	73	73	73	94		
2001	70	76	76	76	90	70	
2002	72	44	44	44	91	72	
2003	74	90	90	90	90		
2004	76	78	78	78	92		
2005	78	91	91	91	86		
2006	80	88	88	88	85	80	67
2007	80	88	88	88	90		
2008	83	83	83	83	91		

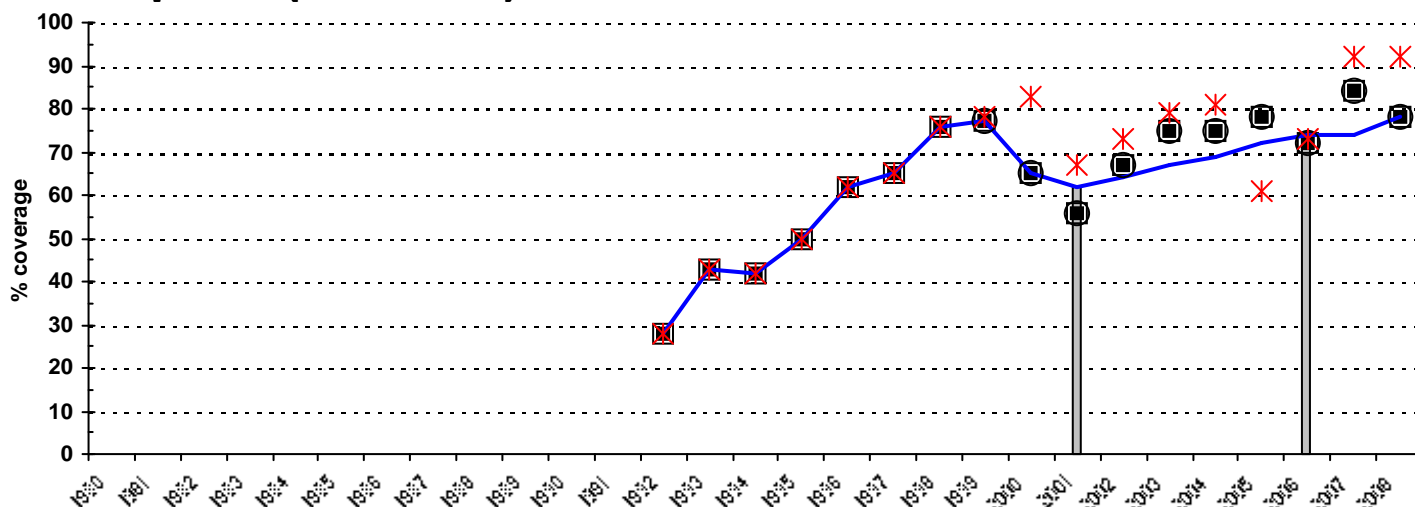
\*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

\*\*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.

# Indonesia

## HepB3 (1980-2008)



### Description of trend

Hepatitis B was introduced in part of the country in 1992 and nationally in 1997. Coverage estimate based on national reports confirmed by survey. Coverage from 2002 onwards based on DTP3 coverage estimates and results from the 2007 National immunization coverage survey. 2006 DHS survey results are slightly lower than the 2007 National Immunization Coverage Survey results but are based on significantly low sample size and lower card retention. The DHS 2006 results were not confirmed by reference to health facility records. The 2008 estimates based on government estimates.

### 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	28	28	28		28		
1993	43	43	43		43		
1994	42	42	42		42		
1995	50	50	50		50		
1996	62	62	62		62		
1997	65	65	65		65		
1998	76	76	76		76		
1999	77	77	77	77	78		
2000	65	65	65	65	83		
2001	62	56	56	56	67	62	
2002	64	67	67	67	73		
2003	67	75	75	75	79		
2004	69	75	75	75	81		
2005	72	78	78	78	61		
2006	74	72	72	72	73	74	
2007	74	84	84	84	92		
2008	78	78	78	78	92		

\*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.

# Indonesia

## Details Survey Data

### Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
<b>2006 Indonesia Demographic and Health Survey 2007</b>								
BCG	Card or History	85.4		12-23 m	3094	36.8	2007	
BCG	C or H <12 month	84.4		12-23 m	3094	36.8	2007	
DTP1	Card or History	84.4		12-23 m	3094	36.8	2007	
DTP1	C or H <12 month	82.9		12-23 m	3094	36.8	2007	
DTP3	Card or History	66.7		12-23 m	3094	36.8	2007	
DTP3	C or H <12 month	64.3		12-23 m	3094	36.8	2007	
Pol3	Card or History	73.5		12-23 m	3094	36.8	2007	
Pol3	C or H <12 month	71.1		12-23 m	3094	36.8	2007	
MCV	Card or History	76.4		12-23 m	3094	36.8	2007	
MCV	C or H <12 month	67		12-23 m	3094	36.8	2007	
HepB	Card or History	60.3		12-23 m	3094	36.8	2007	
<b>2006 Republic of Indonesia Immunization Coverage Survey 2007</b>								
BCG	Card or History	91	Crude	12-23 m	18204	52	2007/08	
DTP1	Card or History	87	Crude	12-23 m	18204	52	2007/08	
DTP3	Card or History	75	Crude	12-23 m	18204	52	2007/08	
Pol3	Card or History	83	Crude	12-23 m	18204	52	2007/08	
MCV	Card or History	80	Crude	12-23 m	18204	52	2007/08	
HepB	Card or History	74	Crude	12-23 m	18204	52	2007/08	
PAB	History	23		CBAW		20	2007/08	
PAB	Card	13		CBAW		20	2007/08	
<b>2002 Indonesia Demographic and Health Survey 2002-2003</b>								
BCG	Card or History	82.5		12-23 m	2819	30.7	2003	
DTP1	Card or History	81.4		12-23 m	2819	30.7	2003	
DTP3	Card or History	58.3		12-23 m	2819	30.7	2003	
Pol3	Card or History	66.1		12-23 m	2819	30.7	2003	
MCV	Card or History	71.6		12-23 m	2819	30.7	2003	
<b>2001 NID + Routine Coverage Survey</b>								
BCG	Card or History	76.4		12-35 m		66.5	2002?	
DTP1	Card or History	76.9		12-35 m		66.5	2002?	
DTP3	Card or History	66.6		12-35 m		66.5	2002?	
Pol3	Card or History	67.4		12-35 m		66.5	2002?	
MCV	Card or History	69.5		12-35 m		66.5	2002?	
HepB	Card or History	62		12-35 m		66.5	2002?	
<b>1996 Indonesia, Demographic and Health Survey 1997, 1998</b>								
BCG	Card or History	84.9		12-23 m	3088	30.9	1997	
BCG	Card or History	84		24-35 m	3021	21.1	1997	
BCG	Card or History	86.1		36-47 m	3047	15.3	1997	
BCG	Card or History	86.7		48-59 m	3064	9.9	1997	
BCG	C or H <12 month	83.4		12-23 m	3088	30.9	1997	
BCG	C or H <12 month	76.9		24-35 m	3021	21.1	1997	
BCG	C or H <12 month	79.2		36-47 m	3047	15.3	1997	
BCG	C or H <12 month	82.2		48-59 m	3064	9.9	1997	
DTP1	Card or History	82.8		12-23 m	3088	30.9	1997	
DTP1	Card or History	81.9		24-35 m	3021	21.1	1997	
DTP1	Card or History	84.3		36-47 m	3047	15.3	1997	
DTP1	Card or History	83.6		48-59 m	3064	9.9	1997	

# Indonesia

## Details Survey Data

### Year Source

Antigen	Confirmation method	% coverage	Compliance with schedule	Age group	Sample size	% cards seen	Survey year	Comments
DTP1	C or H <12 month	81.6		12-23 m	3088	30.9	1997	
DTP1	C or H <12 month	75.7		24-35 m	3021	21.1	1997	
DTP1	C or H <12 month	77.3		36-47 m	3047	15.3	1997	
DTP1	C or H <12 month	79.1		48-59 m	3064	9.9	1997	
DTP3	Card or History	64.1		12-23 m	3088	30.9	1997	
DTP3	Card or History	63.2		24-35 m	3021	21.1	1997	
DTP3	Card or History	68		36-47 m	3047	15.3	1997	
DTP3	Card or History	64.1		48-59 m	3064	9.9	1997	
DTP3	C or H <12 month	61.8		12-23 m	3088	30.9	1997	
DTP3	C or H <12 month	57.6		24-35 m	3021	21.1	1997	
DTP3	C or H <12 month	60		36-47 m	3047	15.3	1997	
DTP3	C or H <12 month	56.4		48-59 m	3064	9.9	1997	
Pol3	Card or History	73.6		12-23 m	3088	30.9	1997	
Pol3	Card or History	76.4		24-35 m	3021	21.1	1997	
Pol3	Card or History	79.8		36-47 m	3047	15.3	1997	
Pol3	Card or History	78.8		48-59 m	3064	9.9	1997	
Pol3	C or H <12 month	69.7		12-23 m	3088	30.9	1997	
Pol3	C or H <12 month	69		24-35 m	3021	21.1	1997	
Pol3	C or H <12 month	68.1		36-47 m	3047	15.3	1997	
Pol3	C or H <12 month	68.1		48-59 m	3064	9.9	1997	
MCV	Card or History	70.9		12-23 m	3088	30.9	1997	
MCV	Card or History	75.5		24-35 m	3021	21.1	1997	
MCV	Card or History	78.4		36-47 m	3047	15.3	1997	
MCV	Card or History	78.8		48-59 m	3064	9.9	1997	
MCV	C or H <12 month	60		12-23 m	3088	30.9	1997	
MCV	C or H <12 month	60.3		24-35 m	3021	21.1	1997	
MCV	C or H <12 month	61		36-47 m	3047	15.3	1997	
MCV	C or H <12 month	63.4		48-59 m	3064	9.9	1997	

### 1995 Report of the 1995 Mother and Child Health Survey, 1996

BCG	Card or History	76.9		12-23 m		61.5	1996	Cards at home and at "Posyandu"
DTP1	Card or History	77.5		12-23 m		61.5	1996	Cards at home and at "Posyandu"
DTP3	Card or History	59.7		12-23 m		61.5	1996	Cards at home and at "Posyandu"
Pol3	Card or History	61.3		12-23 m		61.5	1996	Cards at home and at "Posyandu"
MCV	Card or History	62.6		12-23 m		61.5	1996	Cards at home and at "Posyandu"

### 1993 Indonesia, Demographic and Health Survey 1994, 1995

BCG	Card or History	77.8		12-23 m	3065	38.7	1994	
BCG	Card or History	78.8		24-35 m	3352	25.5	1994	
BCG	Card or History	78.2		36-47 m	3165	19.6	1994	
BCG	Card or History	77.1		48-59 m	3148	12.8	1994	
BCG	C or H <12 month	75.5		12-23 m	3065	38.7	1994	
BCG	C or H <12 month	74.4		24-35 m	3352	25.5	1994	
BCG	C or H <12 month	71.9		36-47 m	3165	19.6	1994	
BCG	C or H <12 month	71.8		48-59 m	3148	12.8	1994	
DTP1	Card or History	77.2		12-23 m	3065	38.7	1994	
DTP1	Card or History	76.9		24-35 m	3352	25.5	1994	
DTP1	Card or History	76.4		36-47 m	3165	19.6	1994	
DTP1	Card or History	75.4		48-59 m	3148	12.8	1994	
DTP1	C or H <12 month	75.2		12-23 m	3065	38.7	1994	
DTP1	C or H <12 month	71.4		24-35 m	3352	25.5	1994	
DTP1	C or H <12 month	70		36-47 m	3165	19.6	1994	
DTP1	C or H <12 month	70		48-59 m	3148	12.8	1994	
DTP3	Card or History	59		12-23 m	3065	38.7	1994	

# Indonesia

## 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	60.6		24-35 m	3352	25.5	1994	
DTP3	Card or History	60.2		36-47 m	3165	19.6	1994	
DTP3	Card or History	57.3		48-59 m	3148	12.8	1994	
DTP3	C or H <12 month	56.2		12-23 m	3065	38.7	1994	
DTP3	C or H <12 month	54.1		24-35 m	3352	25.5	1994	
DTP3	C or H <12 month	52.1		36-47 m	3165	19.6	1994	
DTP3	C or H <12 month	49.9		48-59 m	3148	12.8	1994	
Pol3	Card or History	59.9		12-23 m	3065	38.7	1994	
Pol3	Card or History	61.4		24-35 m	3352	25.5	1994	
Pol3	Card or History	61.4		36-47 m	3165	19.6	1994	
Pol3	Card or History	59.1		48-59 m	3148	12.8	1994	
Pol3	C or H <12 month	57.3		12-23 m	3065	38.7	1994	
Pol3	C or H <12 month	54.3		24-35 m	3352	25.5	1994	
Pol3	C or H <12 month	52.4		36-47 m	3165	19.6	1994	
Pol3	C or H <12 month	51.7		48-59 m	3148	12.8	1994	
MCV	Card or History	62.5		12-23 m	3065	38.7	1994	
MCV	Card or History	68.1		24-35 m	3352	25.5	1994	
MCV	Card or History	67.4		36-47 m	3165	19.6	1994	
MCV	Card or History	67.2		48-59 m	3148	12.8	1994	
MCV	C or H <12 month	54.6		12-23 m	3065	38.7	1994	
MCV	C or H <12 month	53.7		24-35 m	3352	25.5	1994	
MCV	C or H <12 month	48.6		36-47 m	3165	19.6	1994	
MCV	C or H <12 month	54.3		48-59 m	3148	12.8	1994	

### 1990 Indonesia, Demographic and Health Survey 1991, 1992

BCG	Card or History	73.6		12-23 m	2670	35.2	1991	
BCG	C or H <12 month	69.7		12-23 m	2670	35.2	1991	
BCG	C or H <12 month	62.6		24-35 m	2677	23.8	1991	
BCG	C or H <12 month	57.1		36-47 m	2697	16.2	1991	
BCG	C or H <12 month	54		48-59 m	2625	11.7	1991	
DTP1	Card or History	72.6		12-23 m	2670	35.2	1991	
DTP1	C or H <12 month	69.1		12-23 m	2670	35.2	1991	
DTP1	C or H <12 month	62.1		24-35 m	2677	23.8	1991	
DTP1	C or H <12 month	55.5		36-47 m	2697	16.2	1991	
DTP1	C or H <12 month	52		48-59 m	2625	11.7	1991	
DTP3	Card or History	56.1		12-23 m	2670	35.2	1991	
DTP3	C or H <12 month	49.3		12-23 m	2670	35.2	1991	
DTP3	C or H <12 month	40.4		24-35 m	2677	23.8	1991	
DTP3	C or H <12 month	33.2		36-47 m	2697	16.2	1991	
DTP3	C or H <12 month	30.5		48-59 m	2625	11.7	1991	
Pol3	Card or History	55.8		12-23 m	2670	35.2	1991	
Pol3	C or H <12 month	49.4		12-23 m	2670	35.2	1991	
Pol3	C or H <12 month	40.3		24-35 m	2677	23.8	1991	
Pol3	C or H <12 month	33.6		36-47 m	2697	16.2	1991	
Pol3	C or H <12 month	30.3		48-59 m	2625	11.7	1991	
MCV	Card or History	57.5		12-23 m	2670	35.2	1991	
MCV	C or H <12 month	44.5		12-23 m	2670	35.2	1991	
MCV	C or H <12 month	34.6		24-35 m	2677	23.8	1991	
MCV	C or H <12 month	32.5		36-47 m	2697	16.2	1991	
MCV	C or H <12 month	25.6		48-59 m	2625	11.7	1991	

### 1977 Expanded Programme on Immunization In Indonesia, 1981

BCG	Card or History	63		15-23 m	468		1978	
DTP1	Card or History	63		15-23 m	468		1978	

# Indonesia

## 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			15-23 m	468		1978		
Pol3	Card or History			15-23 m	468		1978		
MCV	Card or History			15-23 m	468		1978		

## Indonesia

### 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.

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<sup>1</sup> 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.

## Indonesia

Year	PAB coverage estimate (%)
1980	6
1981	10
1982	16
1983	21
1984	23
1985	29
1986	32
1987	34
1988	37
1989	47
1990	64
1991	65
1992	68
1993	69
1994	74
1995	74
1996	76
1997	79
1998	80
1999	81
2000	82
2001	82
2002	82
2003	82
2004	82
2005	83
2006	83
2007	83
2008	79