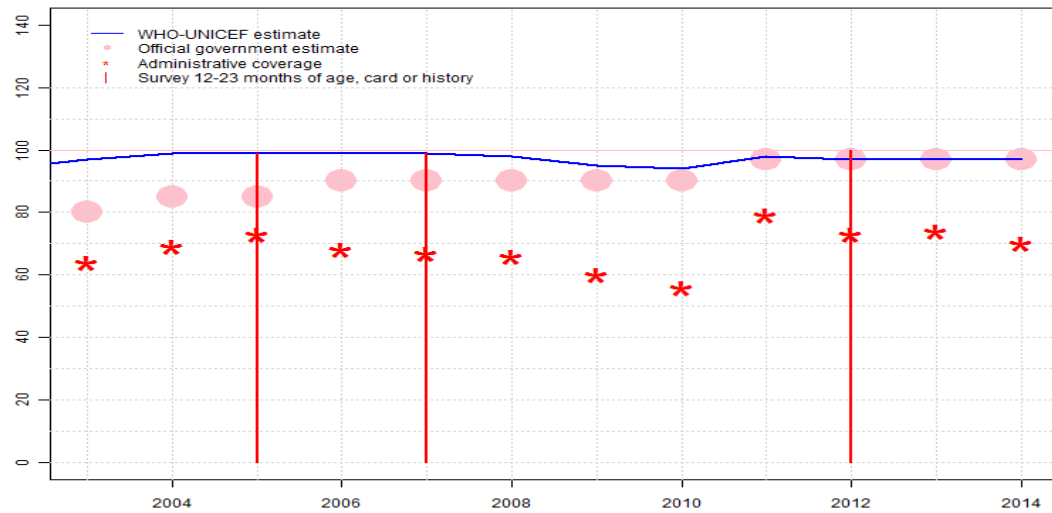


# Eritrea - BCG

ERI - BCG



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	97	99	99	99	99	98	95	94	98	97	97	97
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	80	85	85	90	90	90	90	90	97	97	97	97
Administrative	64	69	73	68	67	66	60	56	79	73	74	70
Survey	NA	NA	99	NA	99	NA	NA	NA	NA	100	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

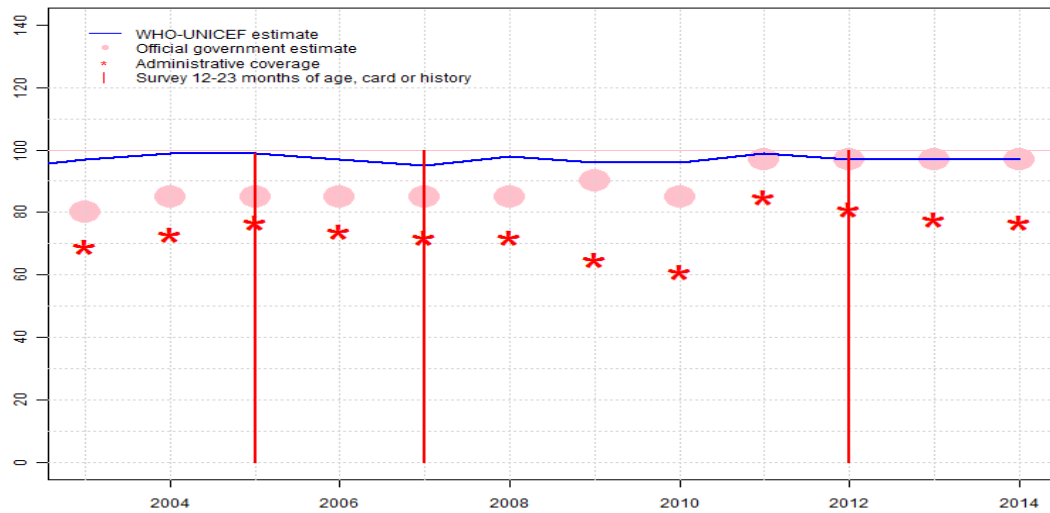
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Reported data calibrated to 2001 and 2005 levels. Estimate challenged by: D-
- 2004: Reported data calibrated to 2001 and 2005 levels. Estimate challenged by: D-
- 2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 99 percent based on 1 survey(s). Estimate challenged by: D-R-
- 2006: Reported data calibrated to 2005 and 2007 levels. Estimate challenged by: D-
- 2007: Estimate based on survey result which does not support reported level of coverage for other antigens. Estimate challenged by: D-R-
- 2008: Reported data calibrated to 2007 and 2012 levels. Estimate challenged by: D-
- 2009: Reported data calibrated to 2007 and 2012 levels. Estimate challenged by: D-
- 2010: Reported data calibrated to 2007 and 2012 levels. Estimate challenged by: D-
- 2011: Reported data calibrated to 2007 and 2012 levels. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 100 percent based on 1 survey(s). Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

# Eritrea - DTP1

ERI - DTP1



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	97	99	99	97	95	98	96	96	99	97	97	97
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	80	85	85	85	85	85	90	85	97	97	97	97
Administrative	69	73	77	74	72	72	65	61	85	81	78	77
Survey	NA	NA	99	NA	100	NA	NA	NA	NA	100	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

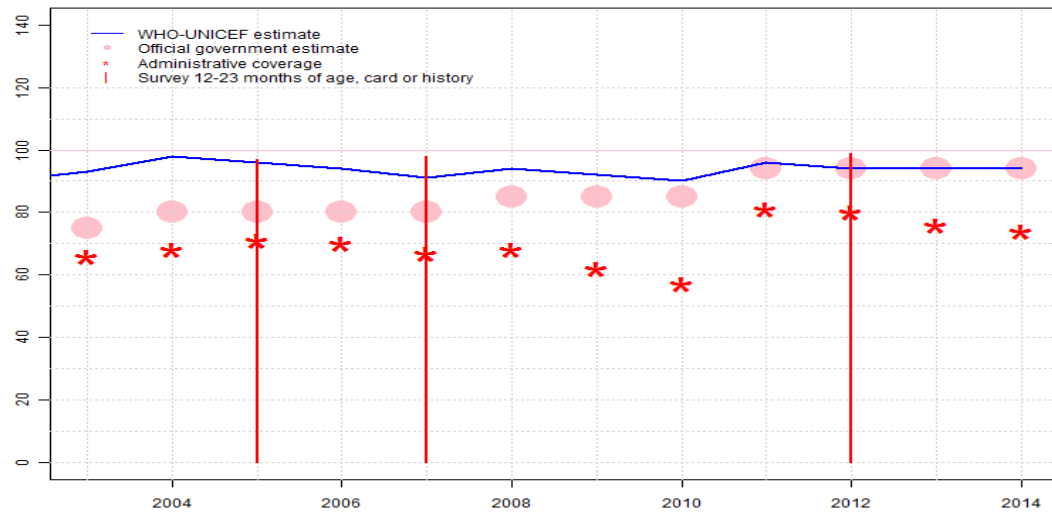
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Reported data calibrated to 2001 and 2005 levels. Estimate challenged by: D-
- 2004: Reported data calibrated to 2001 and 2005 levels. Estimate challenged by: D-
- 2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 99 percent based on 1 survey(s). Estimate challenged by: D-R-
- 2006: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2007: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2008: DTP1 coverage estimated based on DTP3 coverage of 94. Estimate challenged by: D-R-
- 2009: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2010: DTP1 coverage estimated based on DTP3 coverage of 90. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 100 percent based on 1 survey(s). Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

# Eritrea - DTP3

ERI - DTP3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	93	98	96	94	91	94	92	90	96	94	94	94
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	75	80	80	80	80	85	85	85	94	94	94	94
Administrative	66	68	71	70	67	68	62	57	81	80	76	74
Survey	NA	NA	97	NA	98	NA	NA	NA	NA	99	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

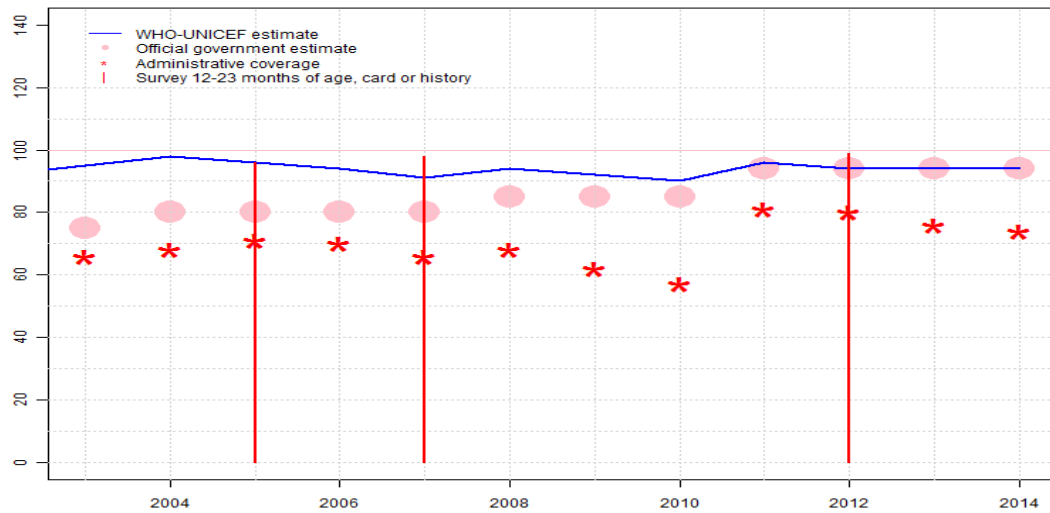
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Reported data calibrated to 2001 and 2005 levels. Estimate challenged by: D-
- 2004: Reported data calibrated to 2001 and 2005 levels. Estimate challenged by: D-
- 2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 96 percent based on 1 survey(s). Eritrea Routine Immunization Coverage Survey 2006 card or history results of 97 percent modified for recall bias to 96 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 88 percent and 3d dose card only coverage of 85 percent. Estimate challenged by: D-R-
- 2006: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2007: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2008: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2009: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2010: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2011: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

# Eritrea - Pol3

ERI - Pol3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	95	98	96	94	91	94	92	90	96	94	94	94
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	75	80	80	80	80	85	85	85	94	94	94	94
Administrative	66	68	71	70	66	68	62	57	81	80	76	74
Survey	NA	NA	96	NA	98	NA	NA	NA	NA	99	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

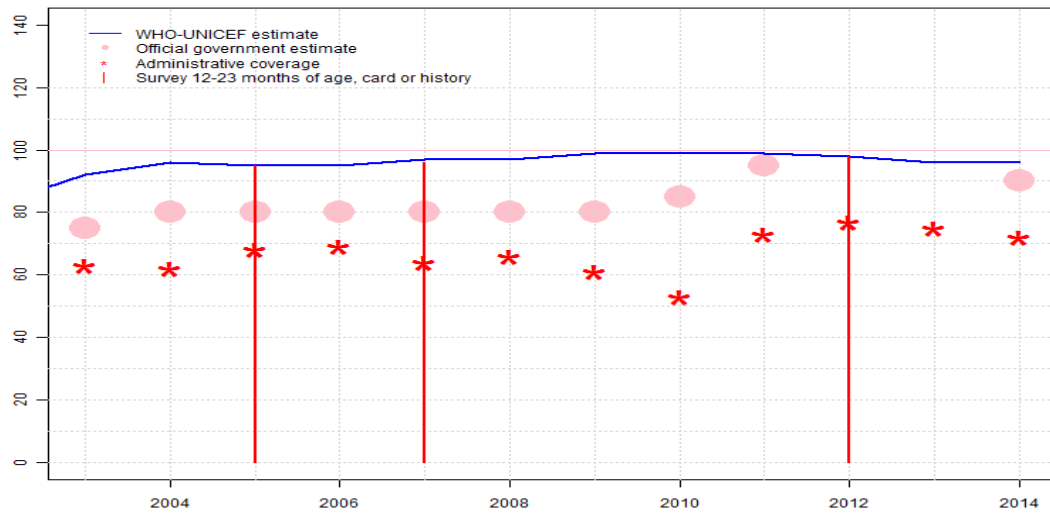
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Reported data calibrated to 2001 and 2005 levels. Estimate challenged by: D-
- 2004: Reported data calibrated to 2001 and 2005 levels. Estimate challenged by: D-
- 2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 96 percent based on 1 survey(s). Estimate challenged by: D-R-
- 2006: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2007: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2008: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2009: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2010: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2011: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

# Eritrea - MCV1

ERI - MCV1



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	92	96	95	95	97	97	99	99	99	98	96	96
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	75	80	80	80	80	80	80	85	95	NA	NA	90
Administrative	63	62	68	69	64	66	61	53	73	77	75	72
Survey	NA	NA	95	NA	96	NA	NA	NA	NA	98	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

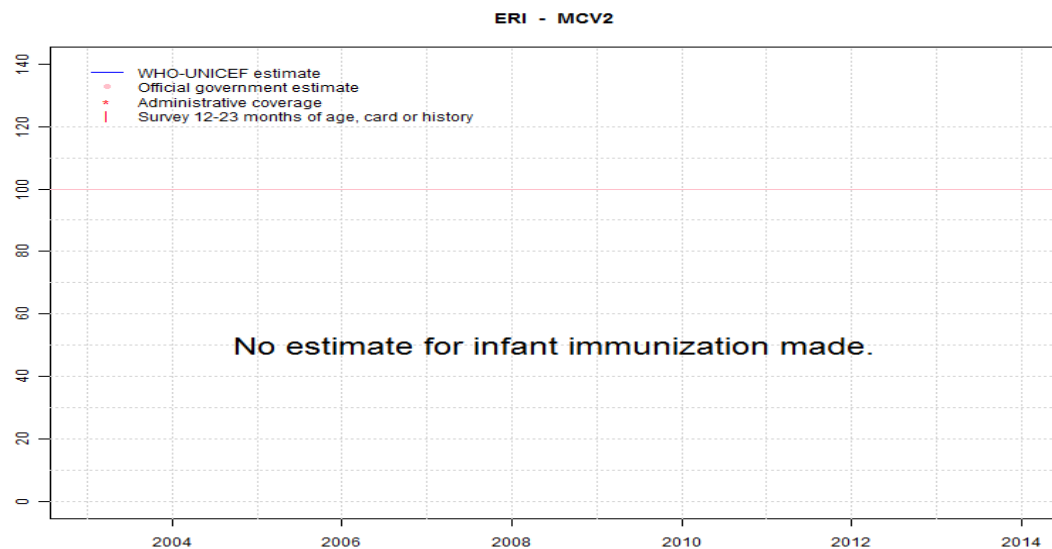
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Reported data calibrated to 2001 and 2005 levels. Estimate challenged by: D-
- 2004: Reported data calibrated to 2001 and 2005 levels. Estimate challenged by: D-
- 2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 95 percent based on 1 survey(s). Estimate challenged by: D-R-
- 2006: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2007: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2008: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2009: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2010: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2011: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 98 percent based on 1 survey(s). Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2012 levels. Estimate challenged by: D-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Change in reported coverage from 75 level to 90 percent. Estimate challenged by: D-

# Eritrea - MCV2



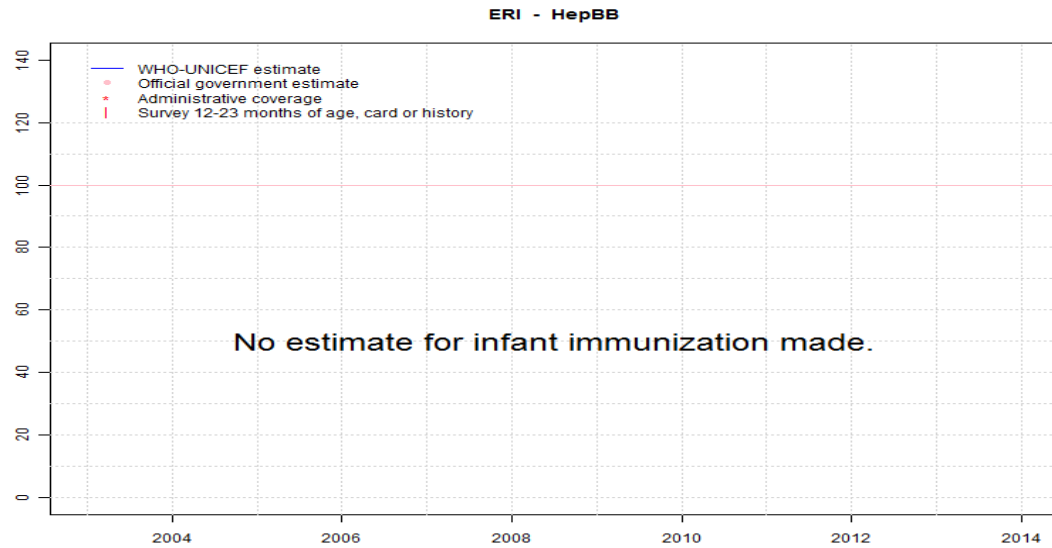
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

# Eritrea - HepBB



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

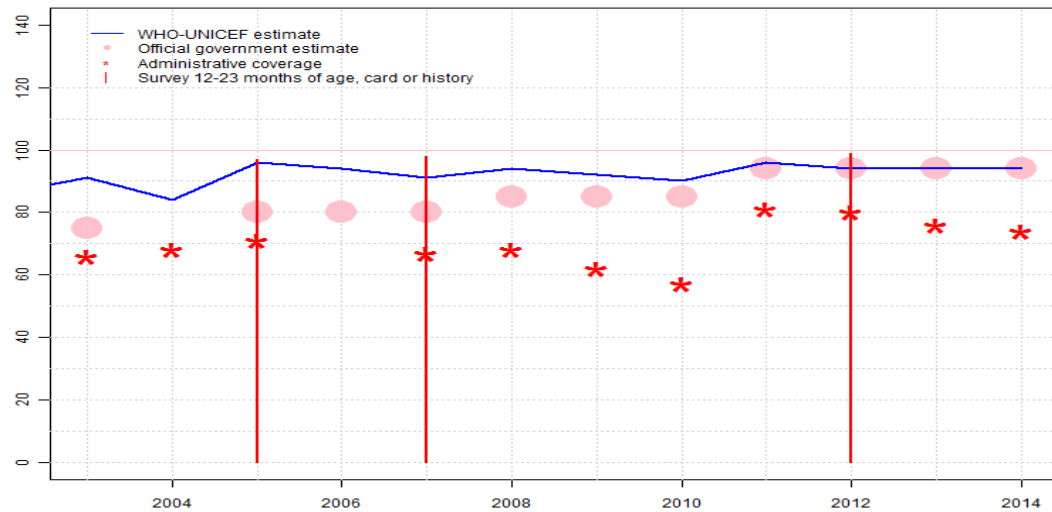
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.



# Eritrea - HepB3

ERI - HepB3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	91	84	96	94	91	94	92	90	96	94	94	94
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	75	NA	80	80	80	85	85	85	94	94	94	94
Administrative	66	68	71	NA	67	68	62	57	81	80	76	74
Survey	NA	NA	97	NA	98	NA	NA	NA	NA	99	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

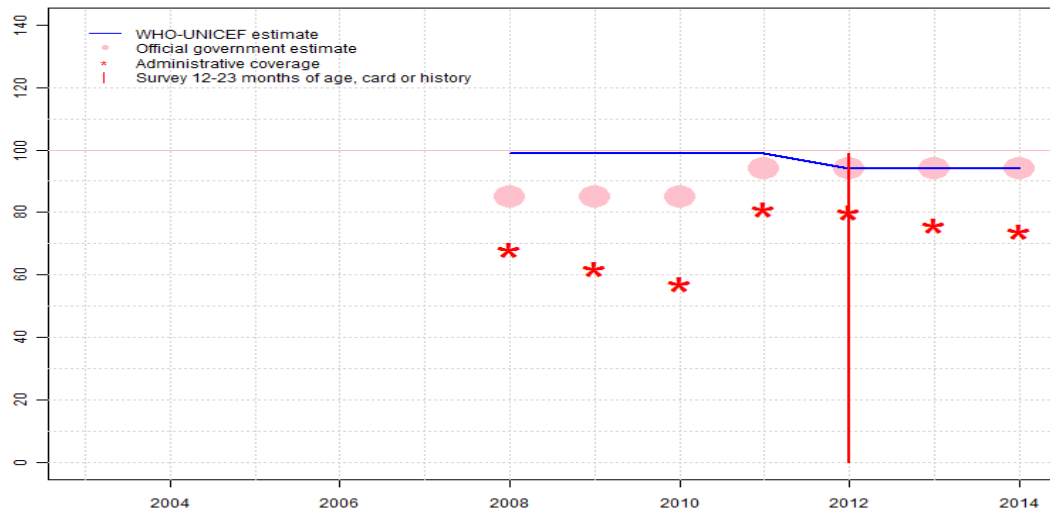
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Reported data calibrated to 2005 levels. Estimate challenged by: D-
- 2004: Reported data calibrated to 2005 levels. Estimate challenged by: D-
- 2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 96 percent based on 1 survey(s). Eritrea Routine Immunization Coverage Survey 2006 card or history results of 97 percent modified for recall bias to 96 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 88 percent and 3d dose card only coverage of 85 percent. Estimate challenged by: D-R-
- 2006: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2007: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2008: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2009: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2010: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2011: Reported data calibrated to 2005 and 2012 levels. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

# Eritrea - Hib3

ERI - Hib3



## Description:

- 2008: Estimate follows DTP3 coverage. Hib vaccine introduced in 2008. Vaccine presentation is DTP-HepB-Hib. Estimate challenged by: D-R-
- 2009: Estimate follows DTP3 coverage. Estimate challenged by: D-R-
- 2010: Estimate follows DTP3 coverage. Estimate challenged by: D-R-
- 2011: Estimate follows DTP3 coverage. Estimate challenged by: D-R-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	99	99	99	99	94	94	94
Estimate GoC	NA	NA	NA	NA	NA	•	•	•	•	•	•	•
Official	NA	NA	NA	NA	NA	85	85	85	94	94	94	94
Administrative	NA	NA	NA	NA	NA	68	62	57	81	80	76	74
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	99	NA	NA

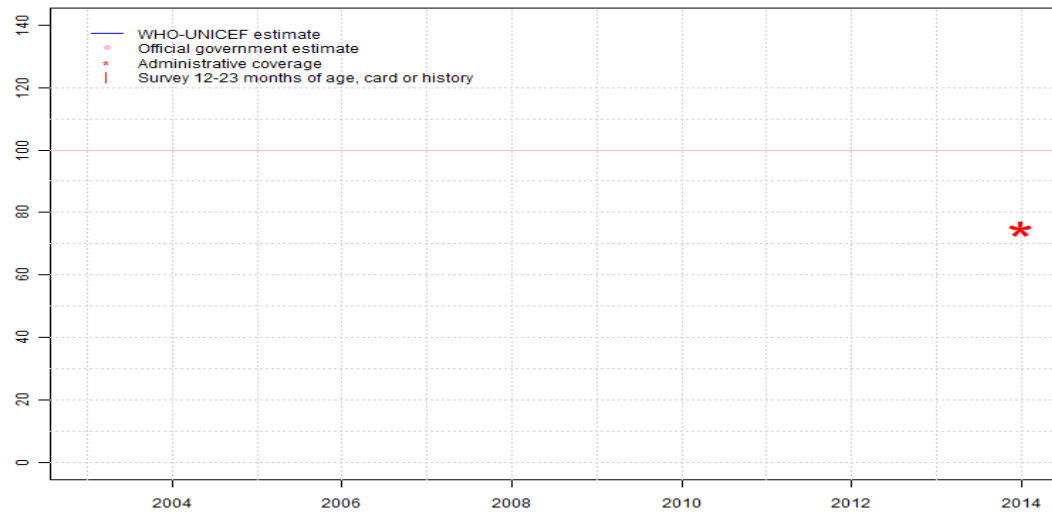
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

# Eritrea - RotaC

ERI - RotaC



## Description:

2014: Rotavirus vaccine introduced during July 2014. National programme achieved 75 percent coverage in one-third of the national target population. WHO and UNICEF estimate reflects annualized coverage in the national target population. Estimate challenged by: D-R-

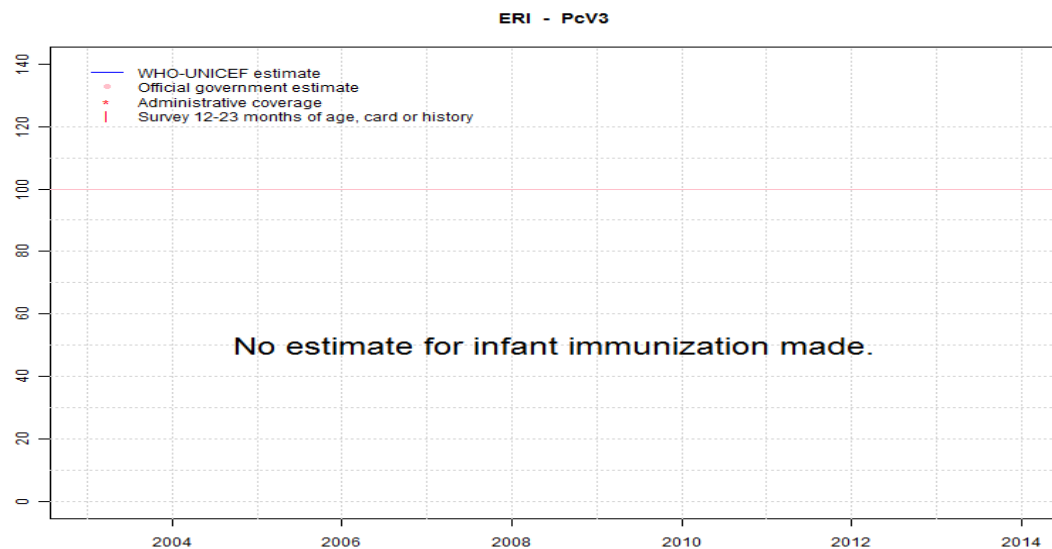
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	75
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

# Eritrea - PcV3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

# Eritrea - survey details

## 2012 2013 National EPI Coverage Survey

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	94	12-23 m	-	94
BCG	Card or History	100	12-23 m	1762	94
DTP1	Card	94	12-23 m	-	94
DTP1	Card or History	100	12-23 m	1762	94
DTP3	Card	93	12-23 m	-	94
DTP3	Card or History	99	12-23 m	1762	94
HepB1	Card	94	12-23 m	-	94
HepB1	Card or History	100	12-23 m	1762	94
HepB3	Card	93	12-23 m	-	94
HepB3	Card or History	99	12-23 m	1762	94
Hib1	Card	94	12-23 m	-	94
Hib1	Card or History	100	12-23 m	1762	94
Hib3	Card	93	12-23 m	-	94
Hib3	Card or History	99	12-23 m	1762	94
MCV1	Card	91	12-23 m	-	94
MCV1	Card or History	98	12-23 m	1762	94
Pol1	Card	94	12-23 m	-	94
Pol1	Card or History	100	12-23 m	1762	94
Pol3	Card	93	12-23 m	-	94
Pol3	Card or History	99	12-23 m	1762	94

## 2007 Eritrea EPI Coverage Survey 2009

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	84	23-34 m	1775	86
BCG	Card or History	99	23-34 m	1775	86
DTP1	Card	85	23-34 m	1775	86
DTP1	Card or History	100	23-34 m	1775	86
DTP3	Card	83	23-34 m	1775	86
DTP3	Card or History	98	23-34 m	1775	86
HepB1	Card	85	23-34 m	1775	86
HepB1	Card or History	100	23-34 m	1775	86
HepB3	Card	83	23-34 m	1775	86
HepB3	Card or History	98	23-34 m	1775	86
MCV1	Card	75	23-34 m	1775	86

MCV1	Card or History	96	23-34 m	1775	86
Pol1	Card	84	23-34 m	1775	86
Pol1	Card or History	99	23-34 m	1775	86
Pol3	Card	83	23-34 m	1775	86
Pol3	Card or History	98	23-34 m	1775	86

## 2005 Eritrea Routine Immunization Coverage Survey 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	87	12-23 m	630	88
BCG	Card or History	99	12-23 m	630	88
DTP1	Card	88	12-23 m	630	88
DTP1	Card or History	99	12-23 m	630	88
DTP3	Card	85	12-23 m	630	88
DTP3	Card or History	97	12-23 m	630	88
HepB1	Card	88	12-23 m	630	88
HepB1	Card or History	99	12-23 m	630	88
HepB3	Card	85	12-23 m	630	88
HepB3	Card or History	97	12-23 m	630	88
MCV1	Card	82	12-23 m	630	88
MCV1	Card or History	95	12-23 m	630	88
Pol1	Card	88	12-23 m	630	88
Pol1	Card or History	99	12-23 m	630	88
Pol3	Card	85	12-23 m	630	88
Pol3	Card or History	96	12-23 m	630	88

## 2001 Eritrea Demographic and Health Survey 2002

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	89	12-23 m	959	50
BCG	Card	76	12-23 m	959	50
BCG	Card or History	91	12-23 m	959	50
BCG	History	15	12-23 m	959	50
DTP1	C or H <12 months	88	12-23 m	959	50
DTP1	Card	76	12-23 m	959	50
DTP1	Card or History	91	12-23 m	959	50
DTP1	History	14	12-23 m	959	50

## Eritrea - survey details

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DTP3	C or H <12 months	79	12-23 m	959	50
DTP3	Card	72	12-23 m	959	50
DTP3	Card or History	83	12-23 m	959	50
DTP3	History	11	12-23 m	959	50
MCV1	C or H <12 months	76	12-23 m	959	50
MCV1	Card	71	12-23 m	959	50
MCV1	Card or History	84	12-23 m	959	50
MCV1	History	13	12-23 m	959	50
Pol1	C or H <12 months	91	12-23 m	959	50
Pol1	Card	76	12-23 m	959	50
Pol1	Card or History	94	12-23 m	959	50
Pol1	History	18	12-23 m	959	50
Pol3	C or H <12 months	79	12-23 m	959	50
Pol3	Card	72	12-23 m	959	50

Pol3	Card or History	83	12-23 m	959	50
Pol3	History	11	12-23 m	959	50

### 1999 Eritrea EPI Coverage Survey Report 2000

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	98	12-23 m	647	92
DTP1	Card or History	97	12-23 m	647	92
DTP3	Card or History	93	12-23 m	647	92
MCV1	Card or History	88	12-23 m	647	92
Pol1	Card or History	97	12-23 m	647	92
Pol3	Card or History	93	12-23 m	647	92

Further information and estimates for previous years are available at:

<http://www.data.unicef.org/child-health/immunization>

[http://www.who.int/immunization/monitoring\\_surveillance/routine/coverage/en/index4.html](http://www.who.int/immunization/monitoring_surveillance/routine/coverage/en/index4.html)

## Eritrea

### 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 receives 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.

The model was used in the mid to late 2000. Currently, the coverage series developed by the model is used as the baseline, and efforts are made to obtain data from all sources that include the JRF and reported trend over the years, routine PAB reporting and its trend over the years, data from surveys (DHS, MICS, EPI), whether countries have been validated for the attainment of maternal and neonatal tetanus elimination and what the TT coverage figures are from the survey etc and all the information is used to arrive at an estimate of the protection-at-birth from TT vaccination.

Year	PAB coverage estimate (%)
2003	83
2004	84
2005	84
2006	85
2007	85
2008	86
2009	86
2010	93
2011	93
2012	94
2013	94
2014	94

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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.  
WHO and UNICEF estimates of national immunization coverage