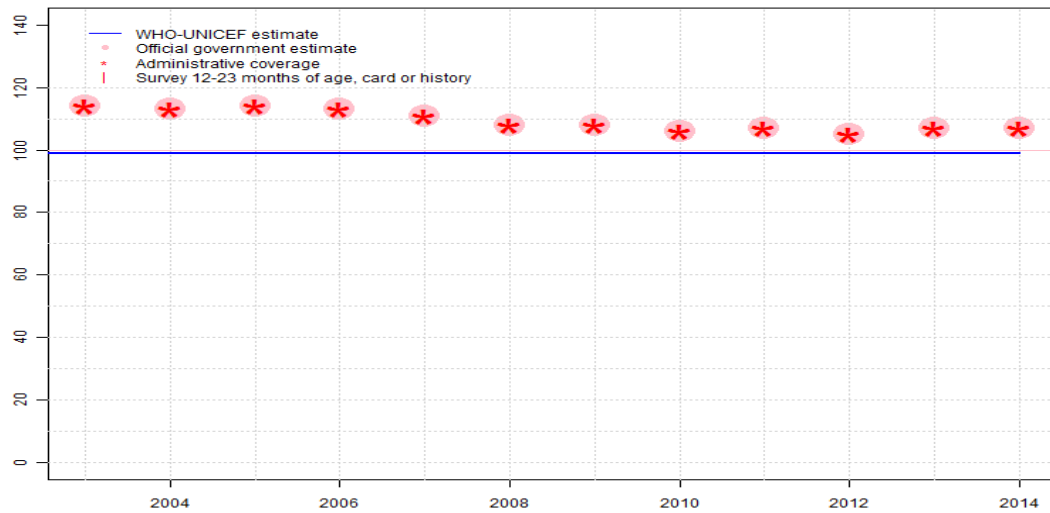


Brazil - BCG

BRA - BCG



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	99	99	99	99	99	99	99	99	99	99	99	99
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	114	113	114	113	111	108	108	106	107	105	107	107
Administrative	114	113	114	113	111	108	108	106	107	105	107	107
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.

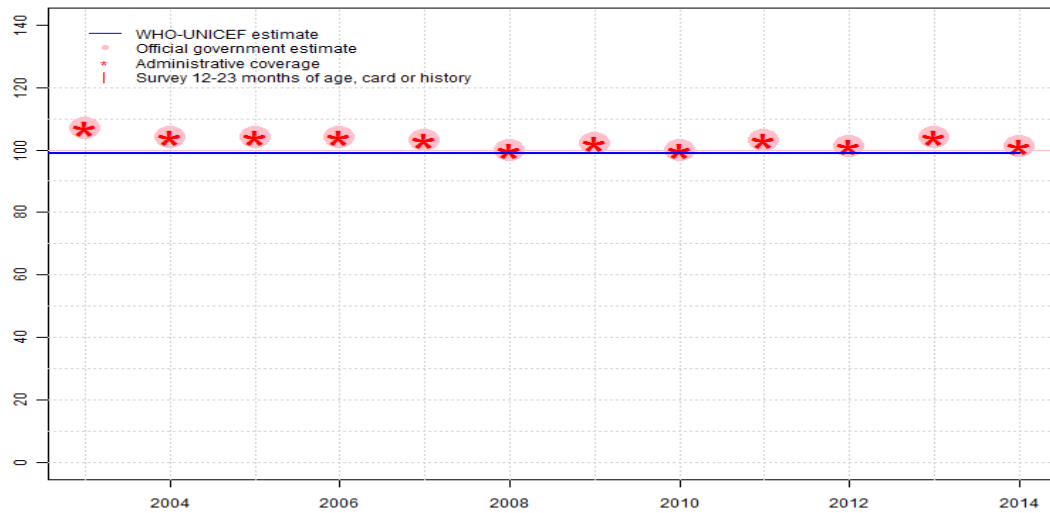
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Reported data calibrated to 1997 levels. Reported data excluded. 114 percent greater than 100 percent. GoC=D+
- 2004: Reported data calibrated to 1997 levels. Reported data excluded. 113 percent greater than 100 percent. GoC=D+
- 2005: Reported data calibrated to 1997 levels. Reported data excluded. 114 percent greater than 100 percent. GoC=D+
- 2006: Reported data calibrated to 1997 levels. Reported data excluded. 113 percent greater than 100 percent. GoC=D+
- 2007: Reported data calibrated to 1997 levels. Reported data excluded. 111 percent greater than 100 percent. GoC=D+
- 2008: Reported data calibrated to 1997 levels. Reported data excluded. 108 percent greater than 100 percent. GoC=D+
- 2009: Reported data calibrated to 1997 levels. Reported data excluded. 108 percent greater than 100 percent. GoC=D+
- 2010: Reported data calibrated to 1997 levels. Reported data excluded. 106 percent greater than 100 percent. GoC=D+
- 2011: Reported data calibrated to 1997 levels. Reported data excluded. 107 percent greater than 100 percent. GoC=D+
- 2012: Reported data calibrated to 1997 levels. Reported data excluded. 105 percent greater than 100 percent. GoC=D+
- 2013: Reported data calibrated to 1997 levels. Reported data excluded. 107 percent greater than 100 percent. GoC=D+
- 2014: Reported data calibrated to 1997 levels. Reported data excluded. 107 percent greater than 100 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=D+

Brazil - DTP1

BRA - DTP1



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	99	99	99	99	99	99	99	99	99	99	99	99
Estimate GoC	••	••	••	••	••	••	••	••	••	••	••	••
Official	107	104	104	104	103	100	102	100	103	101	104	101
Administrative	107	104	104	104	103	100	102	100	103	101	104	101
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.

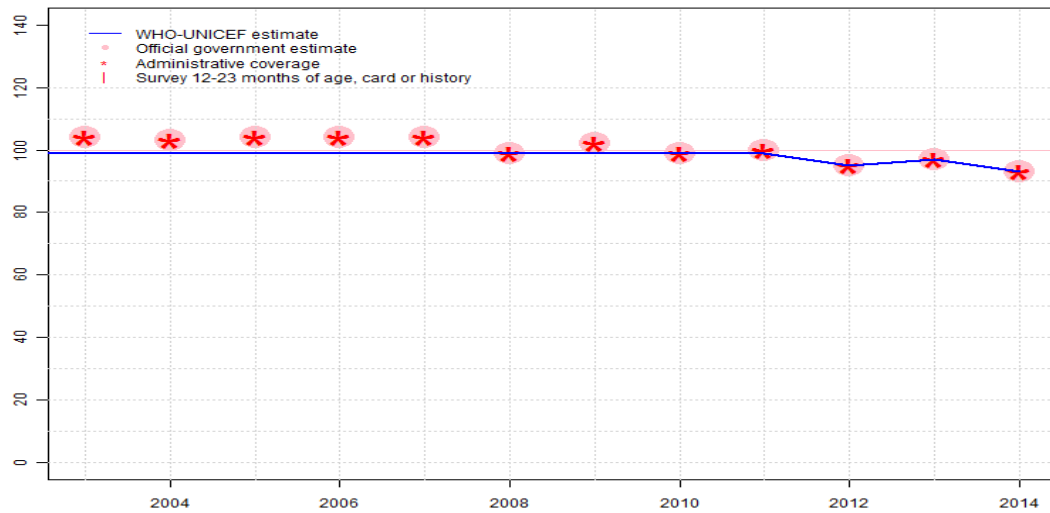
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Estimate based on interpolation between data reported by national government. Reported data excluded. 107 percent greater than 100 percent. GoC=D+
- 2004: Estimate based on interpolation between data reported by national government. Reported data excluded. 104 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 97 percent. GoC=D+
- 2005: Estimate based on interpolation between data reported by national government. Reported data excluded. 104 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 97 percent. GoC=D+
- 2006: Estimate based on interpolation between data reported by national government. Reported data excluded. 104 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 98 percent. GoC=D+
- 2007: Estimate based on interpolation between data reported by national government. Reported data excluded. 103 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 98 percent. GoC=D+
- 2008: Estimate based on coverage reported by national government. GoC=R+D+
- 2009: Estimate based on interpolation between data reported by national government. Reported data excluded. 102 percent greater than 100 percent. GoC=D+
- 2010: Estimate based on coverage reported by national government. GoC=R+D+
- 2011: Estimate based on extrapolation from data reported by national government. Reported data excluded. 103 percent greater than 100 percent. GoC=D+
- 2012: Estimate based on extrapolation from data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Recommended vaccine schedule changed in 2012 from DTP-Hib and OPV to a sequential DTaP-Hib-IPV for first and second dose and DTP-Hib and OPV for the third dose. GoC=D+
- 2013: Estimate based on extrapolation from data reported by national government. Reported data excluded. 104 percent greater than 100 percent. GoC=D+
- 2014: Estimate based on extrapolation from data reported by national government. Reported data excluded. 101 percent greater than 100 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=D+

Brazil - DTP3

BRA - DTP3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	99	99	99	99	99	99	99	99	99	95	97	93
Estimate GoC	••	••	••	••	••	••	••	••	••	••	••	••
Official	104	103	104	104	104	99	102	99	100	95	97	93
Administrative	104	103	104	104	104	99	102	99	100	95	97	93
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.

Description:

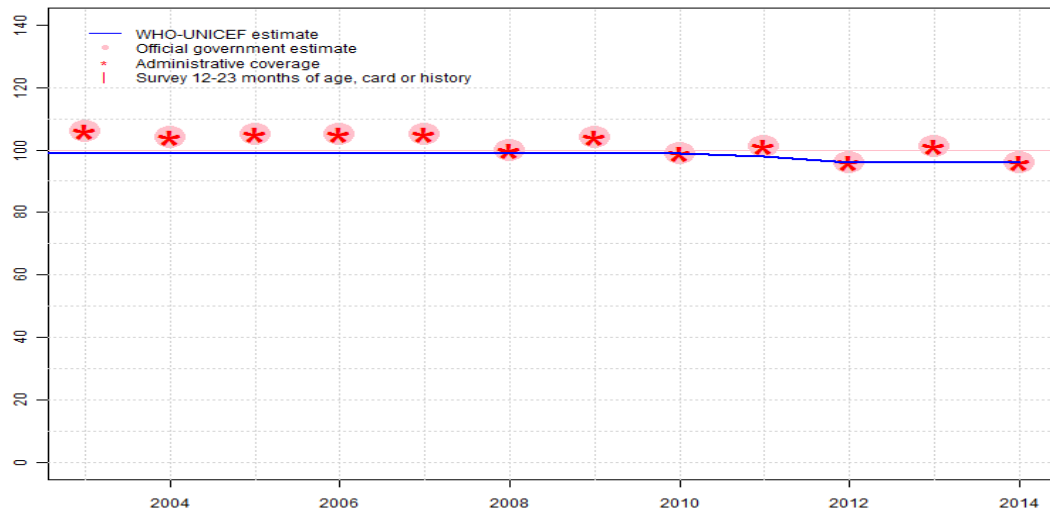
- 2003: Estimate based on interpolation between data reported by national government. Reported data excluded. 104 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 98 percent. GoC=D+
- 2004: Estimate based on interpolation between data reported by national government. Reported data excluded. 103 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 96 percent. GoC=D+
- 2005: Estimate based on interpolation between data reported by national government. Reported data excluded. 104 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 96 percent. GoC=D+
- 2006: Estimate based on interpolation between data reported by national government. Reported data excluded. 104 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 97 percent. GoC=D+
- 2007: Estimate based on interpolation between data reported by national government. Reported data excluded. 104 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 97 percent. GoC=D+
- 2008: Estimate based on coverage reported by national government. Estimate of 99 percent changed from previous revision value of 98 percent. GoC=R+ D+
- 2009: Estimate based on interpolation between data reported by national government. Reported data excluded. 102 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 98 percent. GoC=D+
- 2010: Estimate based on coverage reported by national government. Estimate of 99 percent changed from previous revision value of 98 percent. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. Recommended vaccine schedule changed in 2012 from DTP-Hib and OPV to a sequential DTaP-Hib-IPV for first and second dose and DTP-Hib and OPV for the third dose. Estimate of 95 percent changed from previous revision value of 97 percent. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government. Estimate of 97 percent changed from previous revision value of 95 percent. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. No nation-

Brazil - DTP3

ally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Brazil - Pol3

BRA - Pol3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	99	99	99	99	99	99	99	99	98	96	96	96
Estimate GoC	••	••	••	••	••	••	••	••	••	••	••	••
Official	106	104	105	105	105	100	104	99	101	96	101	96
Administrative	106	104	105	105	105	100	104	99	101	96	101	96
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.

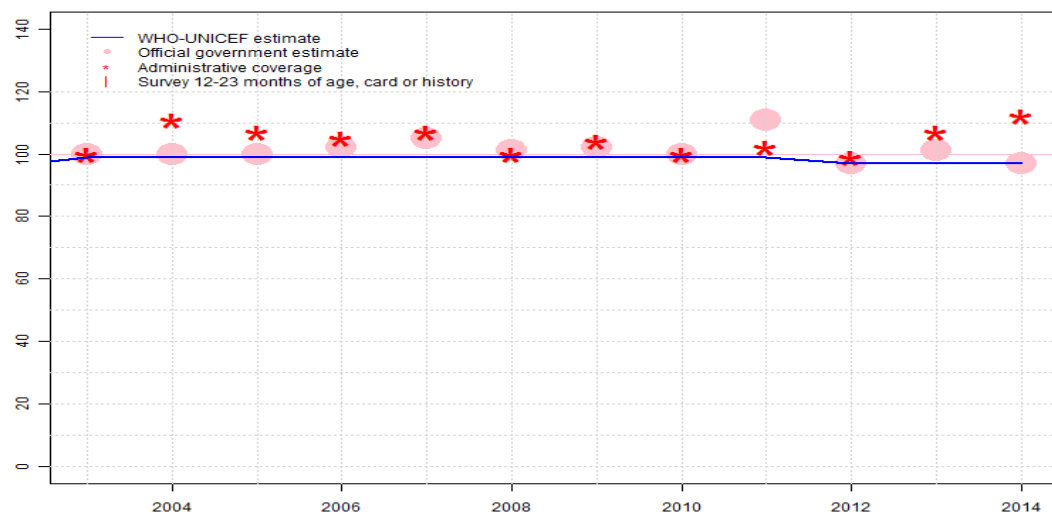
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Estimate based on interpolation between data reported by national government. Reported data excluded. 106 percent greater than 100 percent. GoC=D+
- 2004: Estimate based on interpolation between data reported by national government. Reported data excluded. 104 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 98 percent. GoC=D+
- 2005: Estimate based on interpolation between data reported by national government. Reported data excluded. 105 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 98 percent. GoC=D+
- 2006: Estimate based on interpolation between data reported by national government. Reported data excluded. 105 percent greater than 100 percent. GoC=D+
- 2007: Estimate based on interpolation between data reported by national government. Reported data excluded. 105 percent greater than 100 percent. GoC=D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ D+
- 2009: Estimate based on interpolation between data reported by national government. Reported data excluded. 104 percent greater than 100 percent. GoC=D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on interpolation between data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Estimate of 98 percent changed from previous revision value of 99 percent. GoC=D+
- 2012: Estimate based on coverage reported by national government. Recommended vaccine schedule changed in 2012 from DTP-Hib and OPV to a sequential DTaP-Hib-IPV for first and second dose and DTP-Hib and OPV for the third dose. Estimate of 96 percent changed from previous revision value of 99 percent. GoC=R+ D+
- 2013: Estimate based on interpolation between data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Estimate of 96 percent changed from previous revision value of 99 percent. GoC=D+
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Brazil - MCV1

BRA - MCV1



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	99	99	99	99	99	99	99	99	99	97	97	97
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●
Official	100	100	100	102	105	101	102	100	111	97	101	97
Administrative	100	111	107	105	107	100	104	100	102	99	107	112
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.

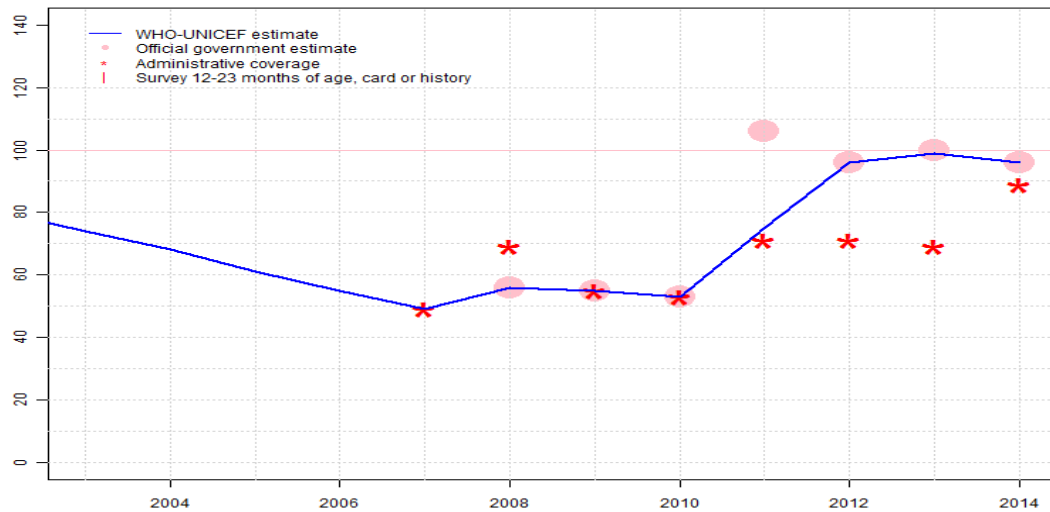
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Estimate based on coverage reported by national government. GoC=R+D+
- 2004: Estimate based on coverage reported by national government. GoC=R+D+
- 2005: Estimate based on coverage reported by national government. GoC=R+D+
- 2006: Estimate based on interpolation between data reported by national government. Reported data excluded. 102 percent greater than 100 percent. GoC=D+
- 2007: Estimate based on interpolation between data reported by national government. Reported data excluded. 105 percent greater than 100 percent. GoC=D+
- 2008: Estimate based on interpolation between data reported by national government. Reported data excluded. 101 percent greater than 100 percent. GoC=D+
- 2009: Estimate based on interpolation between data reported by national government. Reported data excluded. 102 percent greater than 100 percent. GoC=D+
- 2010: Estimate based on coverage reported by national government. GoC=R+D+
- 2011: Estimate based on interpolation between data reported by national government. Reported data excluded. 111 percent greater than 100 percent. Reported data excluded. Unexplained increase from 100 percent to 111 percent with decrease 97 percent. GoC=D+
- 2012: Estimate based on coverage reported by national government. Estimate of 97 percent changed from previous revision value of 99 percent. GoC=R+D+
- 2013: Estimate based on interpolation between data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Estimate of 97 percent changed from previous revision value of 99 percent. GoC=D+
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-

Brazil - MCV2

BRA - MCV2



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	74	68	61	55	49	56	55	53	75	96	99	96
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	••
Official	NA	NA	NA	NA	NA	56	55	53	106	96	100	96
Administrative	NA	NA	NA	NA	49	69	55	53	71	71	69	89
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.

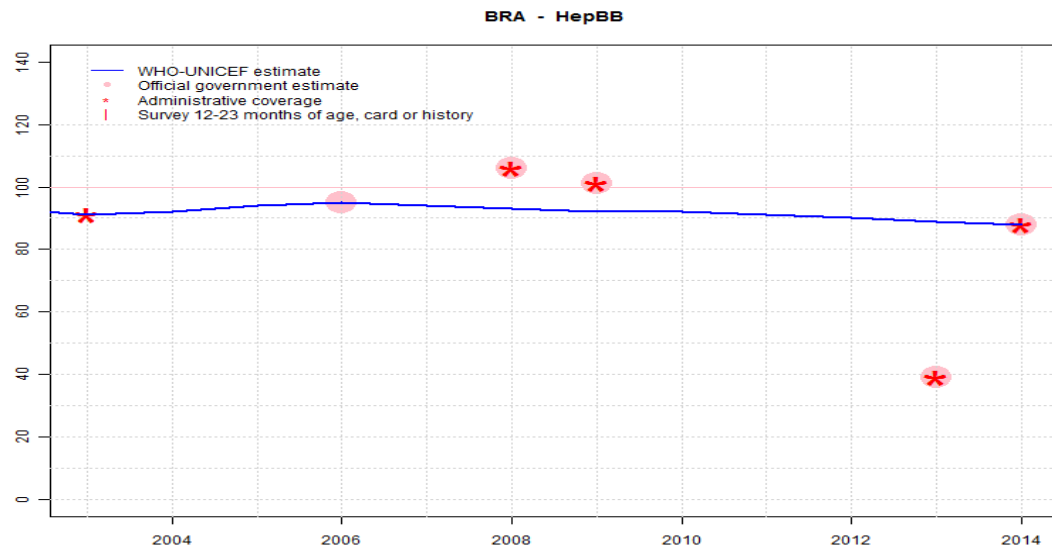
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

Coverage estimates for the second dose of measles containing vaccine are for children by the nationally recommended age.

- 2003: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2004: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2005: Estimate based on interpolation between reported values. Estimate challenged by: D-
- 2006: Estimate based on interpolation between reported values. Estimate challenged by: D-
- 2007: Estimate based on reported administrative estimate. Estimate challenged by: D-
- 2008: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2011: Estimate based on interpolation between reported values. Reported data excluded. 106 percent greater than 100 percent. Estimate of 75 percent changed from previous revision value of 71 percent. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. Estimate of 96 percent changed from previous revision value of 74 percent. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. Estimate of 99 percent changed from previous revision value of 74 percent. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Brazil - HepBB



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	91	92	94	95	94	93	92	92	91	90	89	88
Estimate GoC	••	•	•	••	•	••	••	•	•	•	•	••
Official	NA	NA	NA	95	NA	106	101	NA	NA	NA	39	88
Administrative	91	NA	NA	NA	NA	106	101	NA	NA	NA	39	88
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.

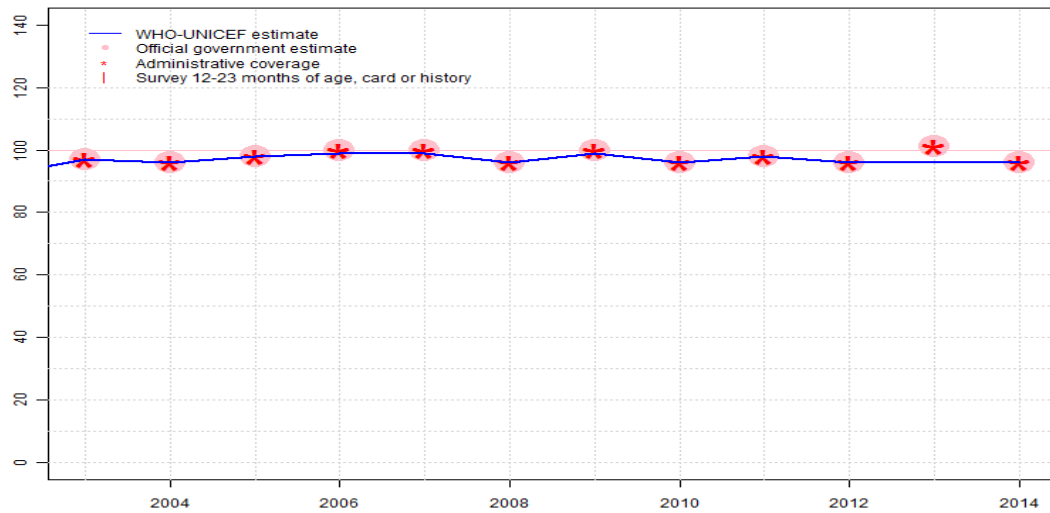
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Estimate based on reported administrative estimate. GoC=R+
- 2004: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2005: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2006: Estimate based on coverage reported by national government. GoC=R+
- 2007: Estimate based on interpolation between reported values. Estimate of 94 percent changed from previous revision value of 95 percent. GoC=No accepted empirical data
- 2008: Estimate based on interpolation between reported values. Reported data excluded. 106 percent greater than 100 percent. Estimate of 93 percent changed from previous revision value of 95 percent. GoC=D+
- 2009: Estimate based on interpolation between reported values. Reported data excluded. 101 percent greater than 100 percent. Estimate of 92 percent changed from previous revision value of 95 percent. GoC=D+
- 2010: Estimate based on interpolation between reported values. Estimate of 92 percent changed from previous revision value of 95 percent. GoC=No accepted empirical data
- 2011: Estimate based on interpolation between reported values. Estimate of 91 percent changed from previous revision value of 95 percent. GoC=No accepted empirical data
- 2012: Estimate based on interpolation between reported values. Estimate of 90 percent changed from previous revision value of 95 percent. GoC=No accepted empirical data
- 2013: Estimate based on interpolation between reported values. Reported data excluded. Reported coverage level is an artifact of reporting. The HepB birth dose data field was changed in the information system during 2013. Estimate of 89 percent changed from previous revision value of 95 percent. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Recovery in reported coverage level reflects successful revisions in the information system. GoC=R+ D+

Brazil - HepB3

BRA - HepB3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	97	96	98	100	100	99	96	99	96	98	96	96
Estimate GoC	•	••	••	••	••	••	••	••	••	••	••	••
Official	97	96	98	100	100	96	100	96	98	96	101	96
Administrative	97	96	98	100	100	96	100	96	98	96	101	96
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.

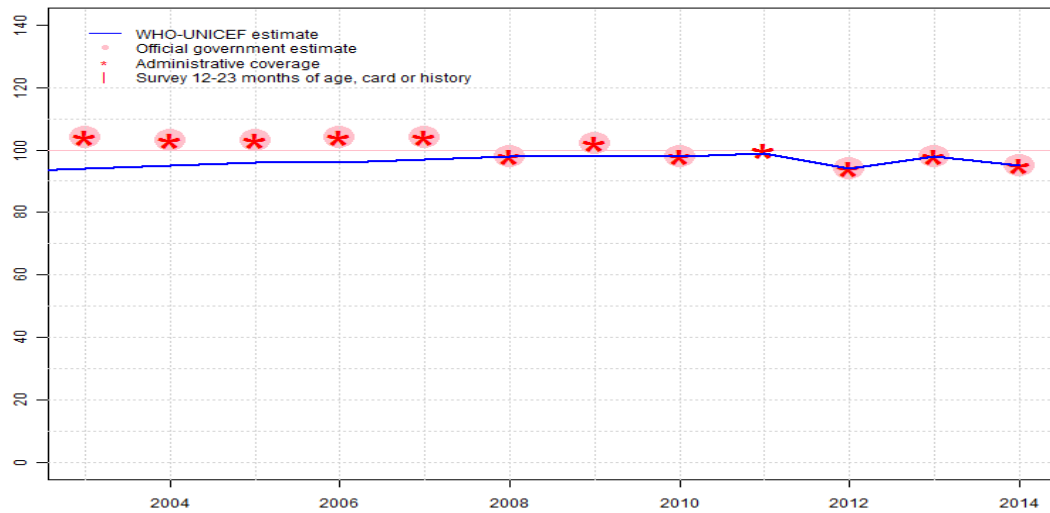
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Estimate based on coverage reported by national government. Estimate of 97 percent changed from previous revision value of 92 percent. Estimate challenged by: D-
- 2004: Estimate based on coverage reported by national government. Estimate of 96 percent changed from previous revision value of 90 percent. GoC=R+ D+
- 2005: Estimate based on coverage reported by national government. Estimate of 98 percent changed from previous revision value of 92 percent. GoC=R+ D+
- 2006: Estimate based on coverage reported by national government. GoC=R+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ D+
- 2009: Estimate based on coverage reported by national government. GoC=R+ D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. Estimate of 96 percent changed from previous revision value of 97 percent. GoC=R+ D+
- 2013: Estimate based on interpolation between data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Estimate of 96 percent changed from previous revision value of 95 percent. GoC=D+
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Brazil - Hib3

BRA - Hib3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	94	95	96	96	97	98	98	98	99	94	98	95
Estimate GoC	••	••	••	••	••	••	••	••	••	••	••	••
Official	104	103	103	104	104	98	102	98	NA	94	98	95
Administrative	104	103	103	104	104	98	102	98	100	94	98	95
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.

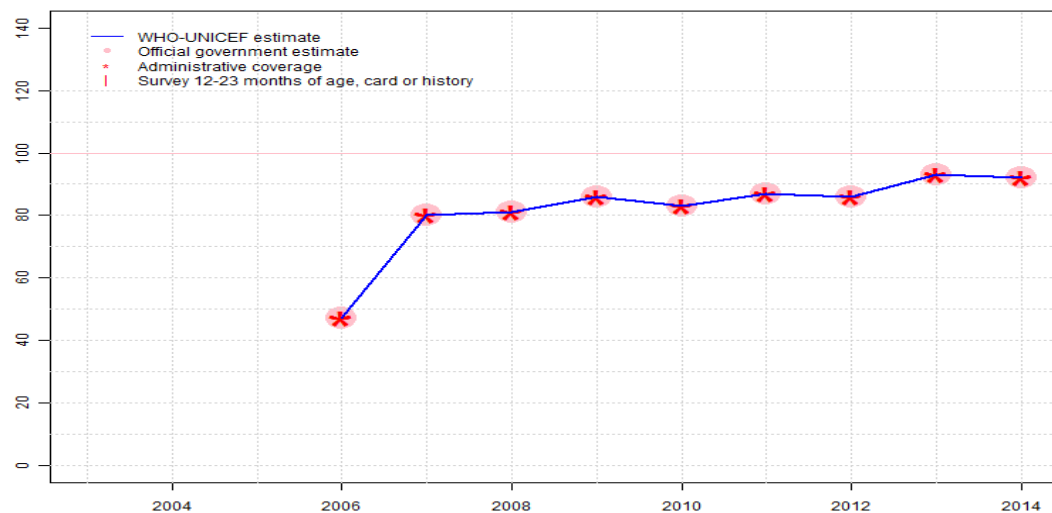
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Estimate based on interpolation between reported values. Reported data excluded. 104 percent greater than 100 percent. Estimate of 94 percent changed from previous revision value of 98 percent. GoC=D+
- 2004: Estimate based on interpolation between reported values. Reported data excluded. 103 percent greater than 100 percent. Estimate of 95 percent changed from previous revision value of 96 percent. GoC=D+
- 2005: Estimate based on interpolation between reported values. Reported data excluded. 103 percent greater than 100 percent. GoC=D+
- 2006: Estimate based on interpolation between reported values. Reported data excluded. 104 percent greater than 100 percent. Estimate of 96 percent changed from previous revision value of 97 percent. GoC=D+
- 2007: Estimate based on interpolation between reported values. Reported data excluded. 104 percent greater than 100 percent. Estimate of 97 percent changed from previous revision value of 98 percent. GoC=D+
- 2008: Estimate based on coverage reported by national government. Estimate of 98 percent changed from previous revision value of 99 percent. GoC=R+ D+
- 2009: Estimate based on interpolation between reported values. Reported data excluded. 102 percent greater than 100 percent. GoC=D+
- 2010: Estimate based on coverage reported by national government. Estimate of 98 percent changed from previous revision value of 96 percent. GoC=R+ D+
- 2011: Estimate based on reported administrative estimate. Estimate of 99 percent changed from previous revision value of 97 percent. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. Recommended vaccine schedule changed in 2012 from DTP-Hib and OPV to a sequential DTaP-Hib-IPV for first and second dose and DTP-Hib and OPV for the third dose. Estimate of 94 percent changed from previous revision value of 97 percent. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government. Estimate of 98 percent changed from previous revision value of 95 percent. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Brazil - RotaC

BRA - RotaC



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	47	80	81	86	83	87	86	93	92
Estimate GoC	NA	NA	NA	••	••	••	••	••	••	••	••	••
Official	NA	NA	NA	47	80	81	86	83	87	86	93	92
Administrative	NA	NA	NA	47	80	81	86	83	87	86	93	92
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.

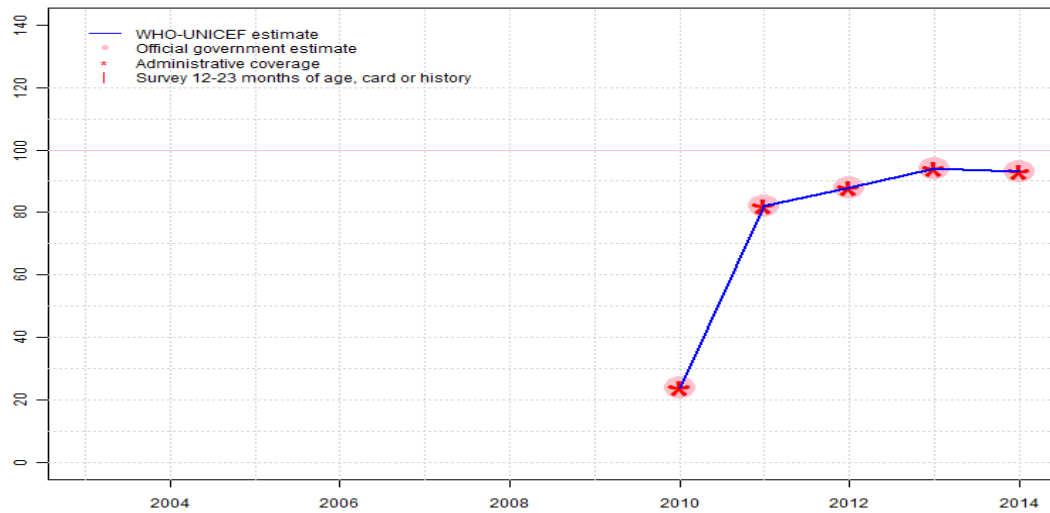
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2006: Estimate based on coverage reported by national government. Rota introduced in 2006. GoC=R+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ D+
- 2009: Estimate based on coverage reported by national government. GoC=R+ D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government. Estimate of 93 percent changed from previous revision value of 89 percent. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Brazil - PcV3

BRA - PcV3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	NA	24	82	88	94	93
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	••	••	••	••	••
Official	NA	NA	NA	NA	NA	NA	NA	24	82	88	94	93
Administrative	NA	NA	NA	NA	NA	NA	NA	24	82	88	94	93
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.

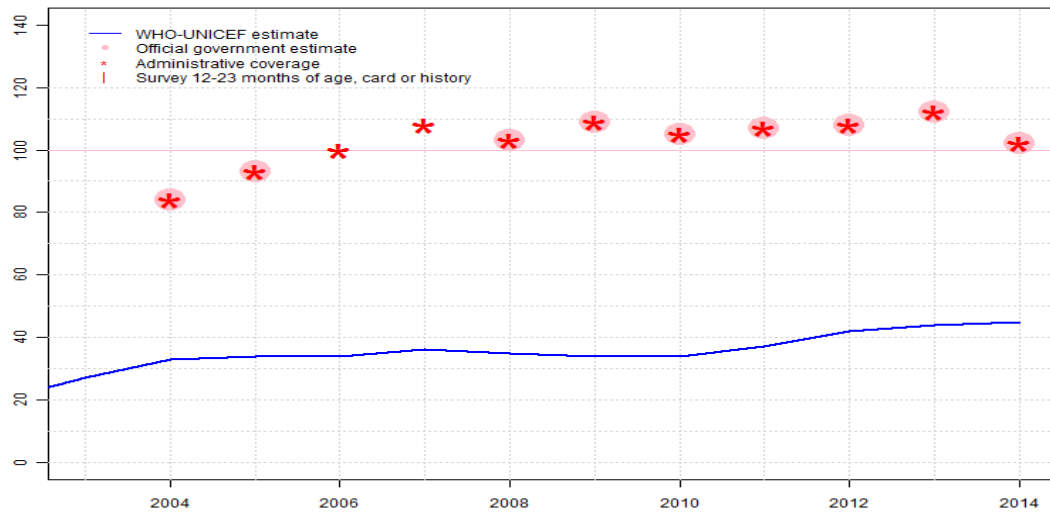
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2010: Estimate based on coverage reported by national government. Pneumococcal conjugate vaccine introduced in 2010. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. Estimate of 88 percent changed from previous revision value of 89 percent. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government. Estimate of 94 percent changed from previous revision value of 93 percent. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Brazil - YFV

BRA - YFV



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	27	33	34	34	36	35	34	34	37	42	44	45
Estimate GoC	•	••	•	•	•	•	•	•	•	•	••	•
Official	NA	84	93	NA	NA	103	109	105	107	108	112	102
Administrative	NA	84	93	100	108	103	109	105	107	108	112	102
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.

Description:

- 2003: Reported data calibrated to 2002 and 2005 levels. Estimate of 27 percent changed from previous revision value of 25 percent. GoC=No accepted empirical data
- 2004: Reported data calibrated to 2002 and 2005 levels. Estimate of 33 percent changed from previous revision value of 29 percent. GoC=D+
- 2005: Twenty-seven percent of surviving infants living in yellow fever endemic areas. Ninety-two percent coverage achieved in these areas. No other areas were targeted. Estimate challenged by: R-
- 2006: Thirty-five percent of surviving infants living in yellow fever endemic areas. Ninety-nine percent coverage achieved in these areas. No other areas were targeted. Estimate challenged by: R-
- 2007: Thirty-five percent of surviving infants living in yellow fever endemic areas. One hundred and one percent coverage achieved in these areas. No other areas were targeted. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: R-
- 2008: Thirty-five percent of surviving infants living in yellow fever endemic areas. Ninety-eight percent coverage achieved in these areas. No other areas were targeted. Reported data excluded. 103 percent greater than 100 percent. Estimate challenged by: D-R-
- 2009: Thirty-eight percent of surviving infants living in yellow fever endemic areas. Eighty-nine percent coverage achieved in these areas. No other areas were targeted. Reported data excluded. 109 percent greater than 100 percent. Estimate challenged by: D-R-
- 2010: Thirty-eight percent of surviving infants assumed to be living in yellow fever endemic areas based on 2009 information. No other areas were targeted. Reported data excluded. Reported data is based on subnational coverage for at-risk population sub groups. Reported data excluded. 105 percent greater than 100 percent. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2010 and 2012 levels. Reported data excluded. Reported data is based on subnational coverage for at-risk population sub groups. Reported data excluded. 107 percent greater than 100 percent. Estimate of 37 percent changed from previous revision value of 39 percent. Estimate challenged by: D-
- 2012: Forty six percent of surviving infants living in yellow fever endemic areas. Reported data excluded. Reported data is based on subnational coverage for at-risk population sub groups. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: R-
- 2013: Reported data calibrated to 2012 and 2014 levels. Reported data excluded. 112 percent greater than 100 percent. Estimate of 44 percent changed from previous revision value of 42 percent. GoC=D+
- 2014: . No nationally representative household survey within the last 5 years.

Brazil - YFV

WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate is based on reported coverage. Reported data is for the national target population. Estimate challenged by: R-

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

Brazil

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	76
2004	78
2005	67
2006	92
2007	92
2008	92
2009	92
2010	92
2011	92
2012	93
2013	93
2014	93

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.