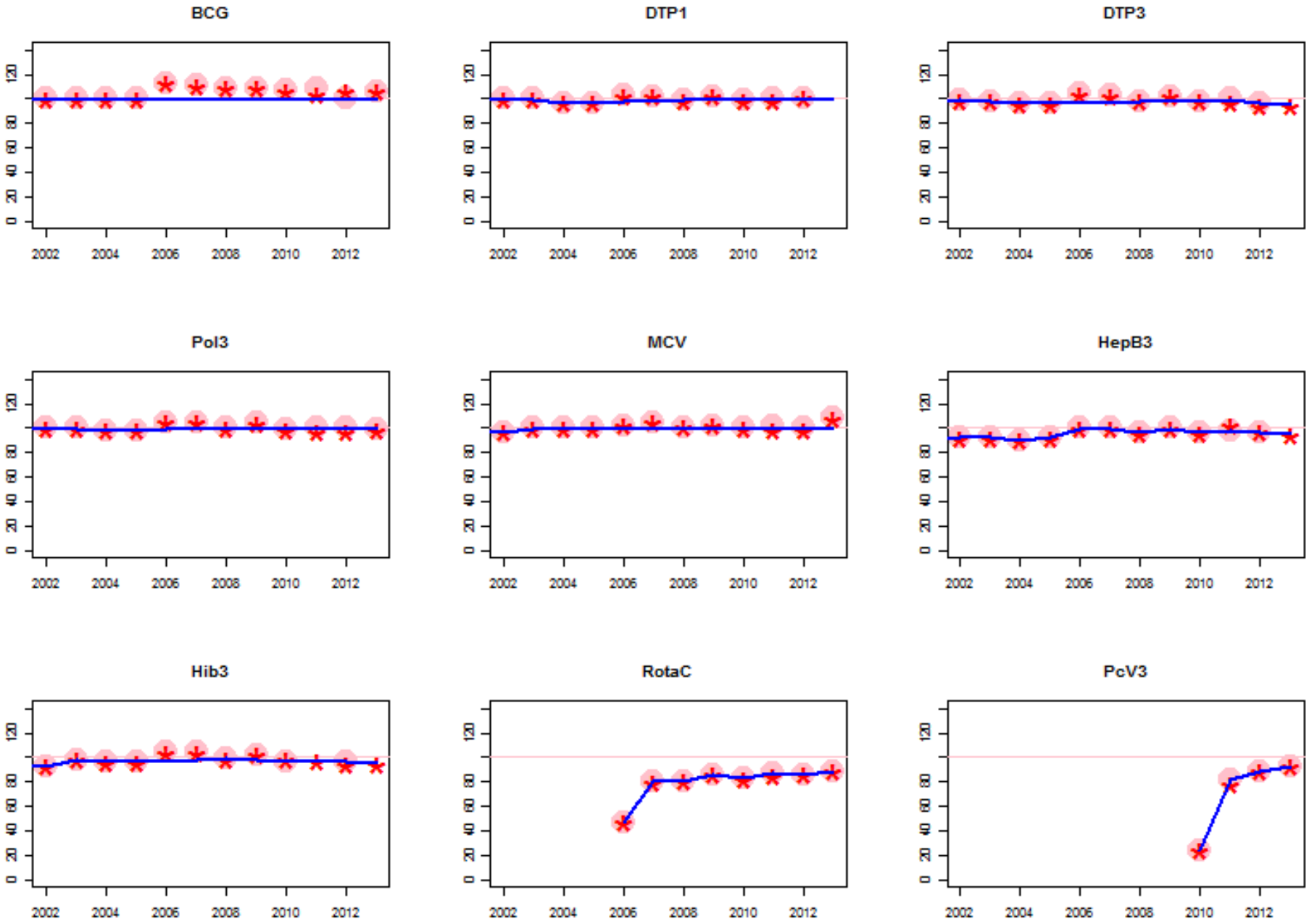
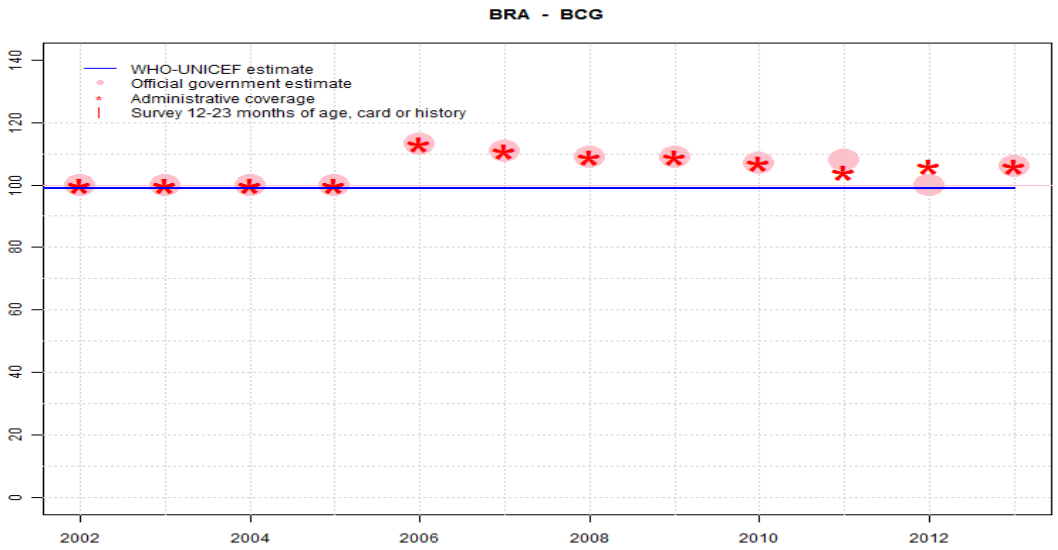

BCG
DTP1
DTP3
Pol3
MCV
HepB3
Hib3
RotaC
PcV3
0
20
40
60
80
120
2002
2004
2006
2008
2010
2012

Brazil - BCG



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	99	99	99	99	99	99	99	99	99	99	99	99
Estimate GoC	●●	●●	●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	100	100	100	100	113	111	109	109	107	108	100	106
Administrative	100	100	100	100	113	111	109	109	107	104	106	106
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.

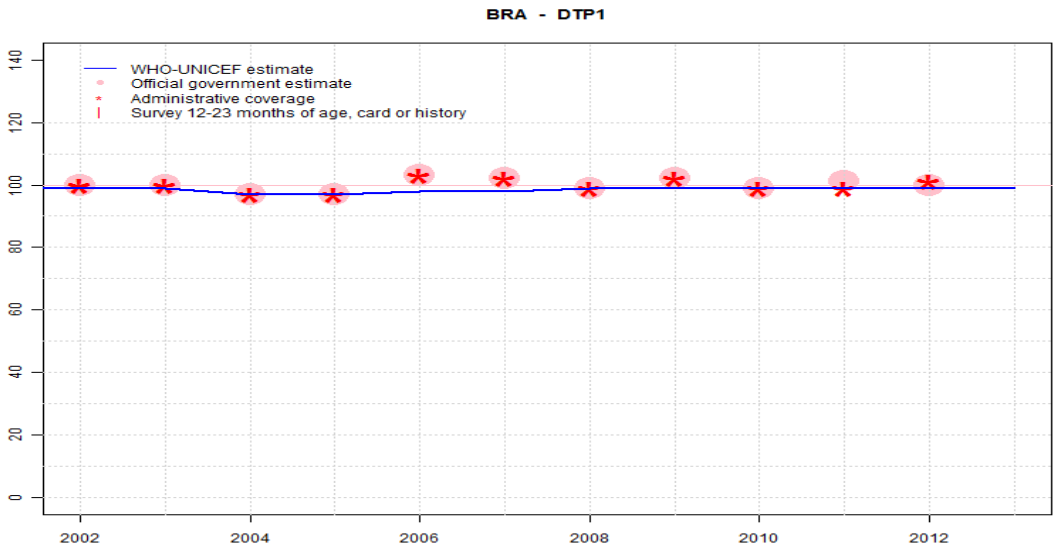
● There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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:

2002: Reported data calibrated to 1997 levels. GoC=D+
2003: Reported data calibrated to 1997 levels. GoC=D+
2004: Reported data calibrated to 1997 levels. GoC=No accepted empirical data
2005: Reported data calibrated to 1997 levels. 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. 109 percent greater than 100 percent. GoC=D+
2009: Reported data calibrated to 1997 levels. Reported data excluded. 109 percent greater than 100 percent. GoC=D+
2010: Reported data calibrated to 1997 levels. Reported data excluded. 107 percent greater than 100 percent. GoC=D+
2011: Reported data calibrated to 1997 levels. Reported data excluded. 108 percent greater than 100 percent. GoC=D+
2012: Reported data calibrated to 1997 levels. GoC=D+
2013: Reported data calibrated to 1997 levels. Reported data excluded. 106 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



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	99	99	97	97	98	98	99	99	99	99	99	99
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●
Official	100	100	97	97	103	102	99	102	99	101	100	NA
Administrative	100	100	97	97	103	102	99	102	99	99	101	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.

Description:

2002: Estimate based on coverage reported by national government. GoC=R+ D+

2003: Estimate based on coverage reported by national government. GoC=R+ D+

2004: Estimate based on coverage reported by national government. GoC=R+

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. 103 percent greater than 100 percent. GoC=D+

2007: Estimate based on interpolation between data reported by national government. Reported data excluded. 102 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. 102 percent greater than 100 percent. GoC=D+

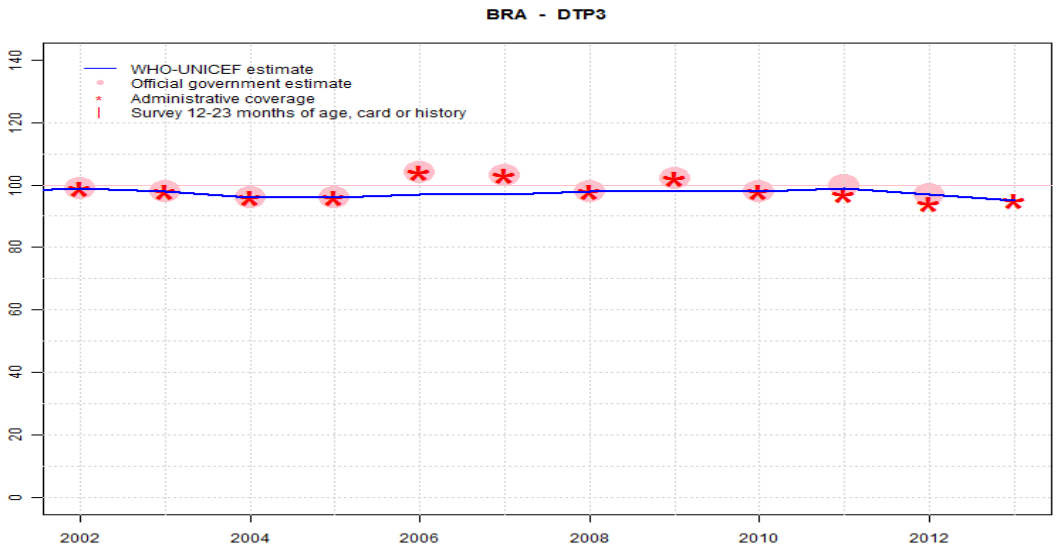
2010: Estimate based on coverage reported by national government. GoC=R+ D+

2011: Estimate based on interpolation between data reported by national government. Reported data excluded. 101 percent greater than 100 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. GoC=R+ D+

2013: Estimate based on extrapolation from data 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=No accepted empirical data

Brazil - DTP3



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	99	98	96	96	97	97	98	98	98	99	97	95
Estimate GoC	••	••	••	••	••	••	••	••	••	••	••	••
Official	99	98	96	96	104	103	98	102	98	100	97	NA
Administrative	99	98	96	96	104	103	98	102	98	97	94	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:

2002: Estimate based on coverage reported by national government. GoC=R+ D+

2003: Estimate based on coverage reported by national government. GoC=R+ D+

2004: Estimate based on coverage reported by national government. GoC=R+

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. 104 percent greater than 100 percent. GoC=D+

2007: Estimate based on interpolation between data reported by national government. Reported data excluded. 103 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. 102 percent greater than 100 percent. GoC=D+

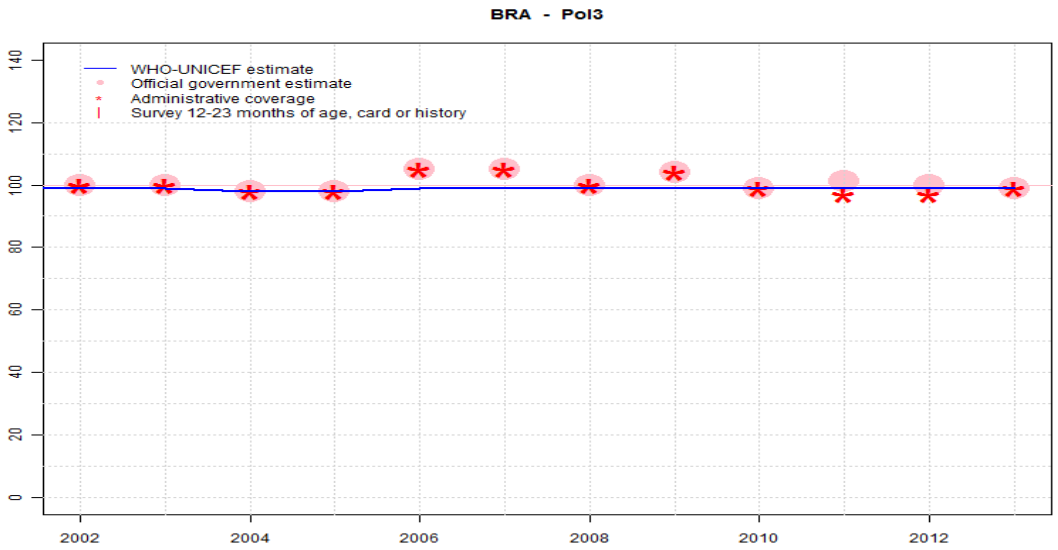
2010: Estimate based on coverage reported by national government. GoC=R+ D+

2011: Estimate based on coverage reported by national government. GoC=R+ D+

2012: Estimate based on coverage reported by national government. 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 97 percent changed from previous revision value of 94 percent. GoC=R+ D+

2013: Estimate based on reported administrative data. 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 - Pol3



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	99	99	98	98	99	99	99	99	99	99	99	99
Estimate GoC	••	••	••	••	••	••	••	••	••	••	••	••
Official	100	100	98	98	105	105	100	104	99	101	100	99
Administrative	100	100	98	98	105	105	100	104	99	97	97	99
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:

2002: Estimate based on coverage reported by national government. GoC=R+ D+

2003: Estimate based on coverage reported by national government. GoC=R+ D+

2004: Estimate based on coverage reported by national government. GoC=R+

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. 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+

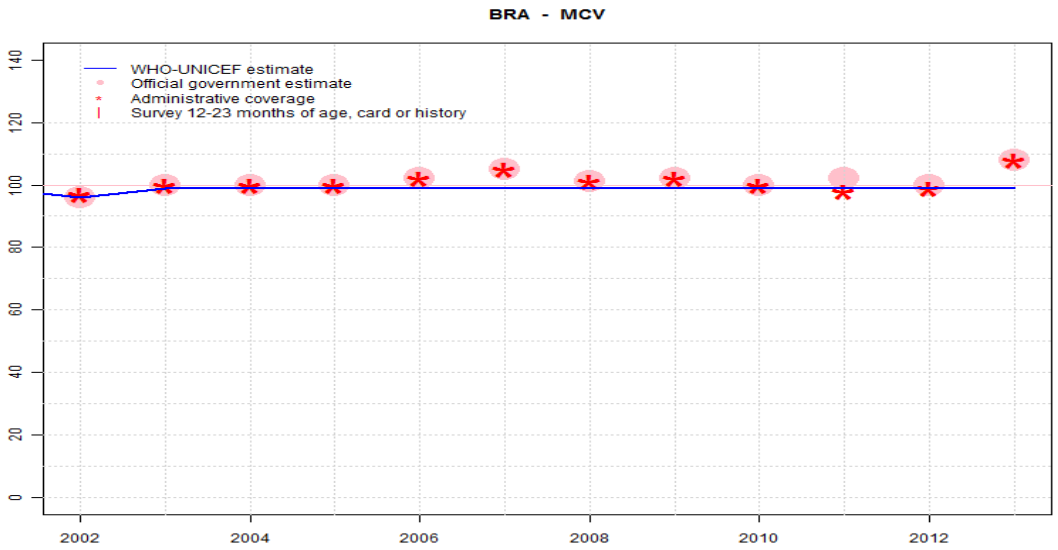
2010: Estimate based on coverage reported by national government. GoC=R+ D+

2011: Estimate based on interpolation between data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Estimate of 99 percent changed from previous revision value of 98 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 99 percent changed from previous revision value of 97 percent. GoC=R+ D+

2013: 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 - MCV



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	96	99	99	99	99	99	99	99	99	99	99	99
Estimate GoC	●●	●●	●●	●●	●	●●	●●	●●	●●	●●	●●	●●
Official	96	100	100	100	102	105	101	102	100	102	100	108
Administrative	97	100	100	100	102	105	101	102	100	98	99	108
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:

2002: Estimate based on coverage reported by national government. GoC=R+ D+

2003: Estimate based on coverage reported by national government. GoC=R+ D+

2004: Estimate based on coverage reported by national government. GoC=R+

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=No accepted empirical data

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+

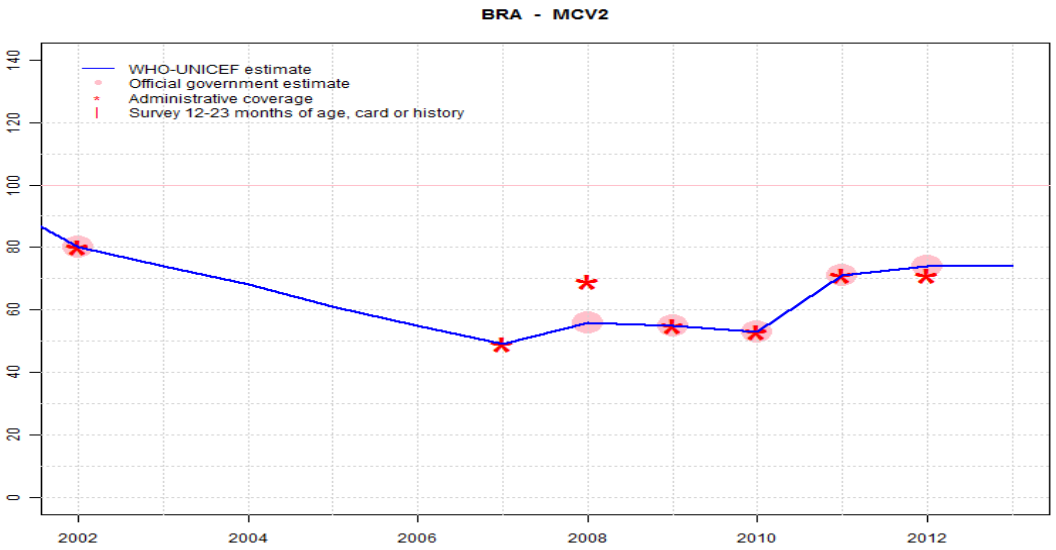
2010: Estimate based on coverage reported by national government. GoC=R+ D+

2011: Estimate based on interpolation between data reported by national government. Reported data excluded. 102 percent greater than 100 percent. GoC=D+

2012: Estimate based on coverage reported by national government. GoC=R+ D+

2013: Estimate based on extrapolation from data reported by national government. Reported data excluded. 108 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 - MCV2



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	80	74	68	61	55	49	56	55	53	71	74	74
Estimate GoC	●●	●	●	●	●	●	●	●	●	●	●	●
Official	80	NA	NA	NA	NA	NA	56	55	53	71	74	NA
Administrative	80	NA	NA	NA	NA	49	69	55	53	71	71	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.

Description:

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

2002: Estimate based on coverage reported by national government. GoC=R+ D+

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-

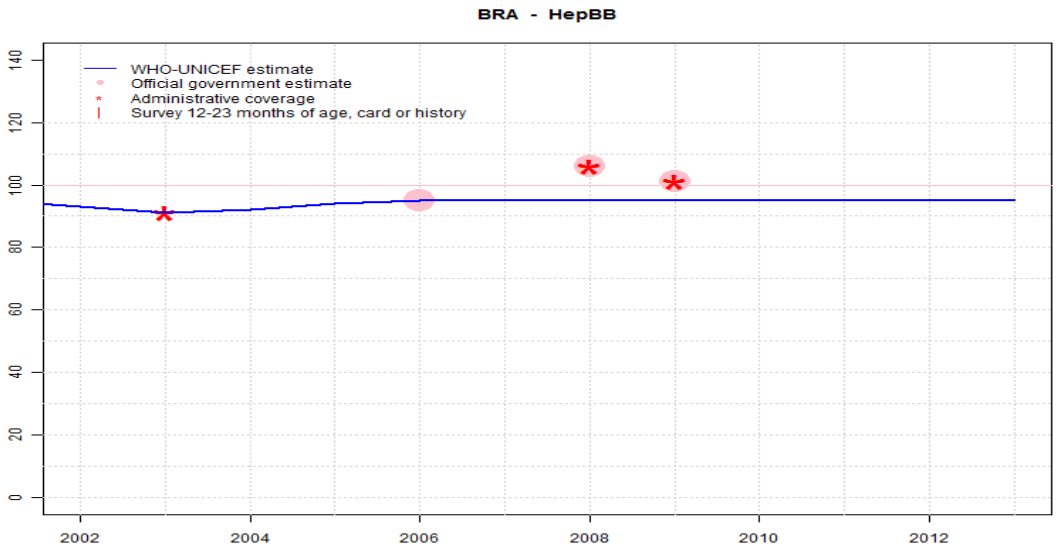
2010: Estimate based on coverage reported by national government. Estimate challenged by: D-

2011: Estimate based on coverage reported by national government. Estimate challenged by: D-

2012: Estimate based on coverage reported by national government. Estimate challenged by: D-

2013: Estimate based on extrapolation from data 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=No accepted empirical data

Brazil - HepBB



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	93	91	92	94	95	95	95	95	95	95	95	95
Estimate GoC	•	••	•	•	••	•	••	••	•	•	•	•
Official	NA	NA	NA	NA	95	NA	106	101	NA	NA	NA	NA
Administrative	NA	91	NA	NA	NA	NA	106	101	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.

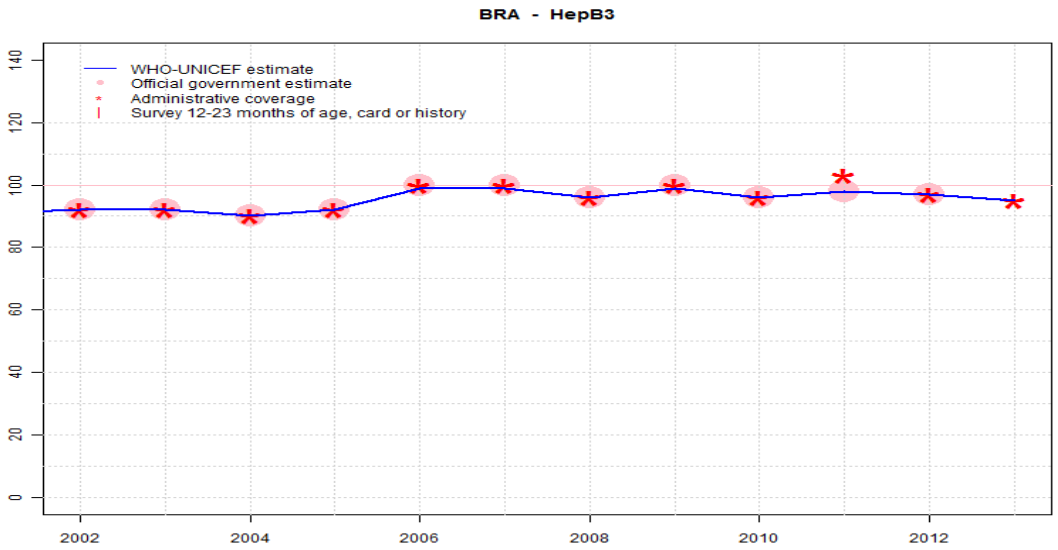
● There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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.

Description:

2002: Estimate based on interpolation between reported values. GoC=No accepted empirical data
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 extrapolation from data reported by national government. GoC=No accepted empirical data
2008: Estimate based on extrapolation from data reported by national government. Reported data excluded. 106 percent greater than 100 percent. GoC=D+
2009: Estimate based on extrapolation from data reported by national government. Reported data excluded. 101 percent greater than 100 percent. GoC=D+
2010: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data
2011: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data
2012: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data
2013: Estimate based on extrapolation from data 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=No accepted empirical data

Brazil - HepB3



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	92	92	90	92	99	99	96	99	96	98	97	95
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	92	92	90	92	100	100	96	100	96	98	97	NA
Administrative	92	92	90	92	100	100	96	100	96	103	97	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:

2002: Estimate based on coverage reported by national government. GoC=R+ D+

2003: Estimate based on coverage reported by national government. GoC=R+ D+

2004: Estimate based on coverage reported by national government. GoC=R+

2005: Estimate based on coverage reported by national government. 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+

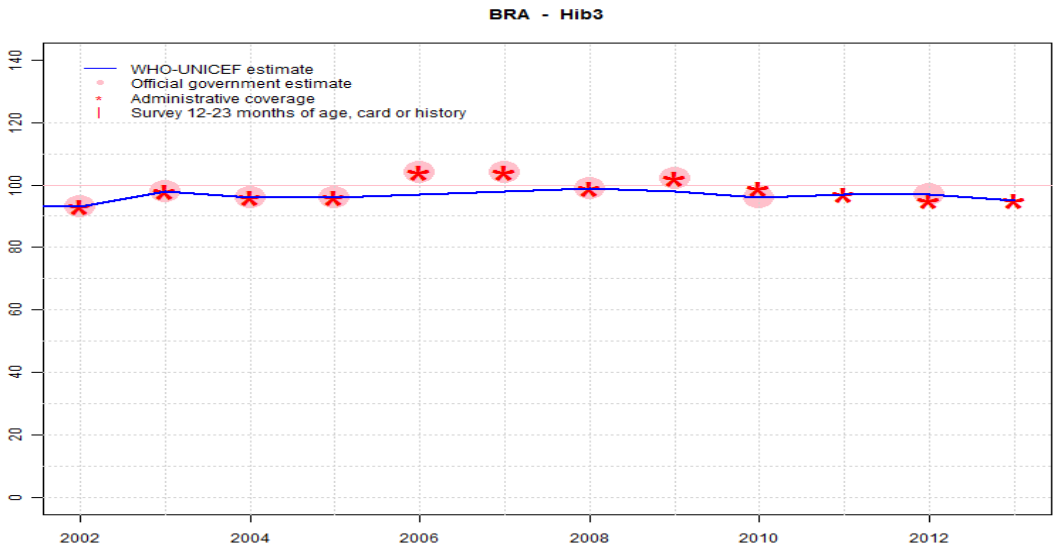
2010: Estimate based on coverage reported by national government. GoC=R+ D+

2011: Estimate based on coverage reported by national government. GoC=R+ D+

2012: Estimate based on coverage reported by national government. GoC=R+ D+

2013: Estimate based on reported administrative data. 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



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	93	98	96	96	97	98	99	98	96	97	97	95
Estimate GoC	●●	●●	●●	●	●●	●●	●●	●●	●●	●●	●●	●●
Official	93	98	96	96	104	104	99	102	96	NA	97	NA
Administrative	93	98	96	96	104	104	99	102	99	97	95	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:

2002: Estimate based on coverage reported by national government. GoC=R+ D+

2003: Estimate based on coverage reported by national government. GoC=R+

2004: Estimate based on coverage reported by national government. GoC=R+

2005: Estimate based on coverage reported by national government. Estimate challenged by: D-

2006: Estimate based on interpolation between reported values. Reported data excluded. 104 percent greater than 100 percent. GoC=D+

2007: Estimate based on interpolation between reported values. Reported data excluded. 104 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 reported values. Reported data excluded. 102 percent greater than 100 percent. GoC=D+

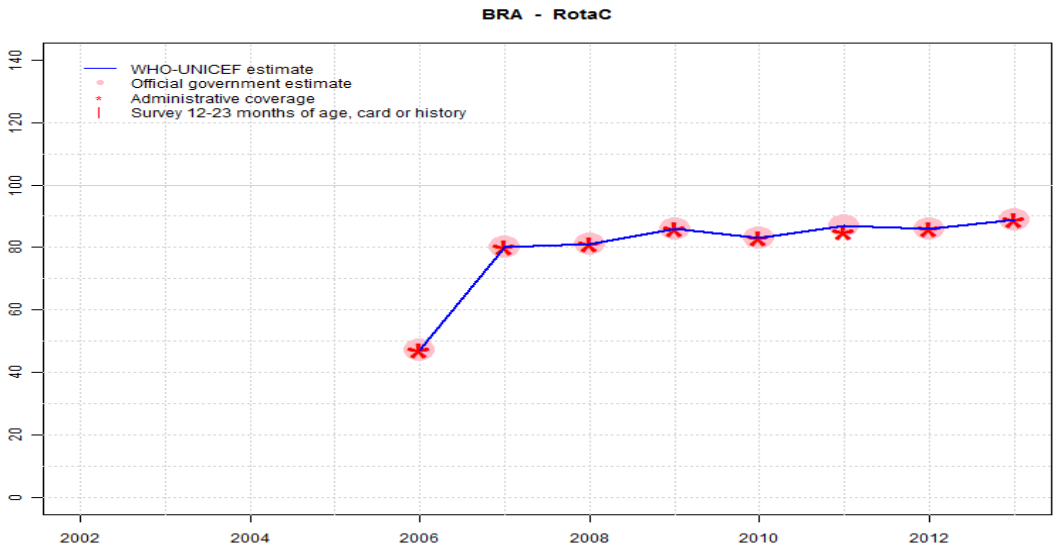
2010: Estimate based on coverage reported by national government. GoC=R+ D+

2011: Estimate based on reported administrative estimate. 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 97 percent changed from previous revision value of 95 percent. GoC=R+ D+

2013: Estimate based on reported administrative estimate. 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



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	NA	NA	NA	NA	47	80	81	86	83	87	86	89
Estimate GoC	NA	NA	NA	NA	●●	●●	●●	●●	●●	●●	●●	●●
Official	NA	NA	NA	NA	47	80	81	86	83	87	86	89
Administrative	NA	NA	NA	NA	47	80	81	86	83	85	86	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:

2006: Estimate based on coverage reported by national government. Rota introduced in 2006. GoC=R+

2007: Estimate based on coverage reported by national government. GoC=R+

2008: Estimate based on coverage reported by national government. GoC=R+ D+

2009: Estimate based on coverage reported by national government. GoC=R+ D+

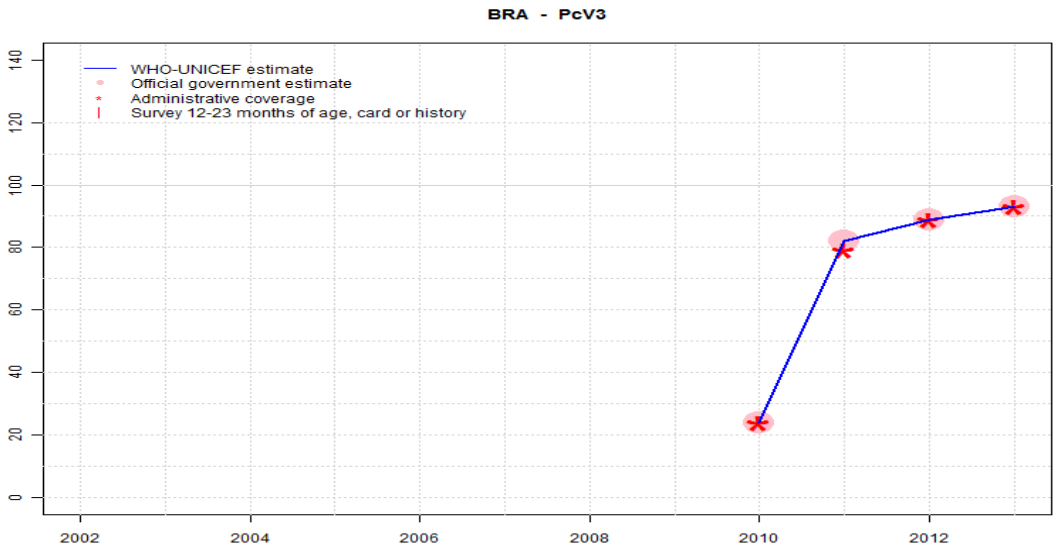
2010: Estimate based on coverage reported by national government. GoC=R+ D+

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. 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



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	24	82	89	93
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	●●	●●	●●	●●
Official	NA	NA	NA	NA	NA	NA	NA	NA	24	82	89	93
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	24	79	89	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:

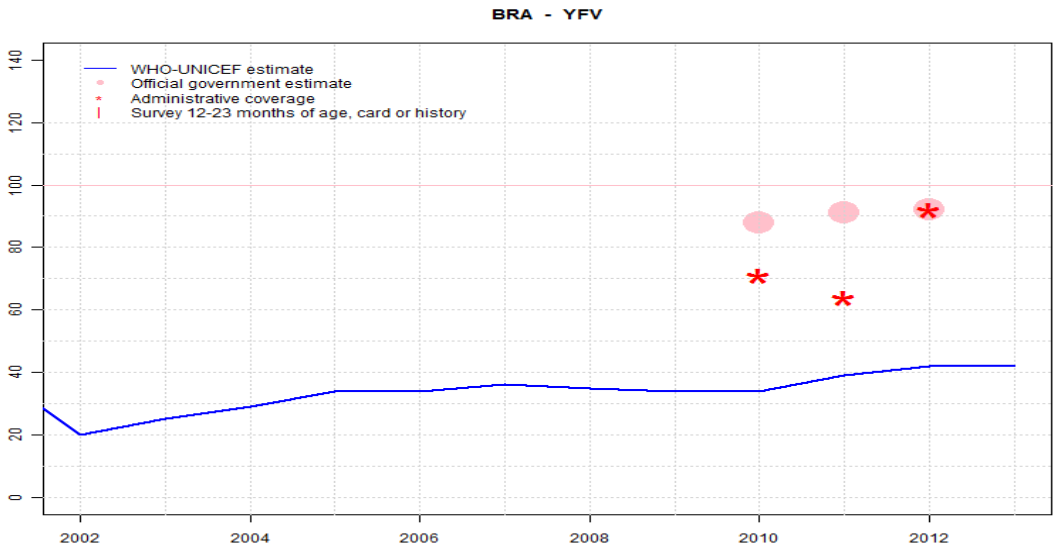
2010: Estimate based on coverage reported by national government. Pneumococcal conjugate vaccine introduced in 2010. GoC=R+ D+

2011: Estimate based on coverage reported by national government. GoC=R+

2012: Estimate based on coverage reported by national government. GoC=R+ D+

2013: 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



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	20	25	29	34	34	36	35	34	34	39	42	42
Estimate GoC	●●	●	●	●●	●	●●	●●	●●	●	●	●	●
Official	NA	NA	NA	NA	NA	NA	NA	NA	88	91	92	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	71	64	92	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.

Description:

2002: Twenty percent of surviving infants living in yellow fever endemic areas. Ninety-eight percent coverage achieved in these areas. No other areas were targeted. GoC=D+

2003: Reported data calibrated to 2002 and 2005 levels. GoC=No accepted empirical data

2004: Reported data calibrated to 2002 and 2005 levels. GoC=No accepted empirical data

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. GoC=D+

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: D-

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. GoC=D+

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. GoC=D+

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. GoC=D+

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. Estimate challenged by: D-R-

2011: Reported data calibrated to 2010 and 2012 levels. Estimate challenged by: D-

2012: Forty six percent of surviving infants living in yellow fever endemic areas. Estimate challenged by: R-

2013: Reported data calibrated to 2012 levels. 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=No accepted empirical data

Further information and estimates prior to 2002 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 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.

Year	PAB coverage estimate (%)
2002	65
2003	76
2004	78
2005	67
2006	92
2007	92
2008	92
2009	92
2010	92
2011	92
2012	93
2013	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.