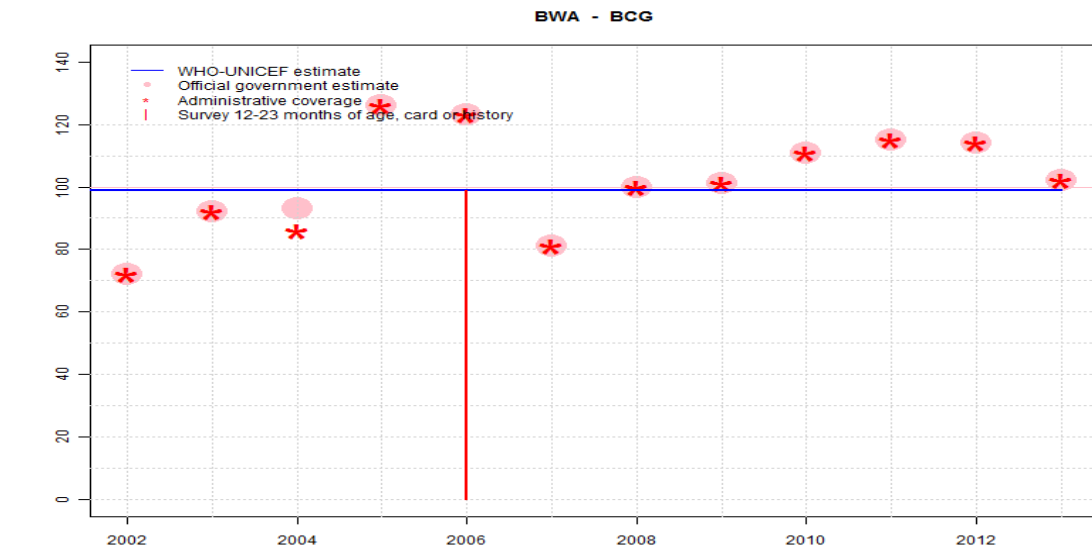


Botswana - BCG



	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	72	92	93	126	123	81	100	101	111	115	114	102
Administrative	72	92	86	126	123	81	100	101	111	115	114	102
Survey	NA	NA	NA	NA	99	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.

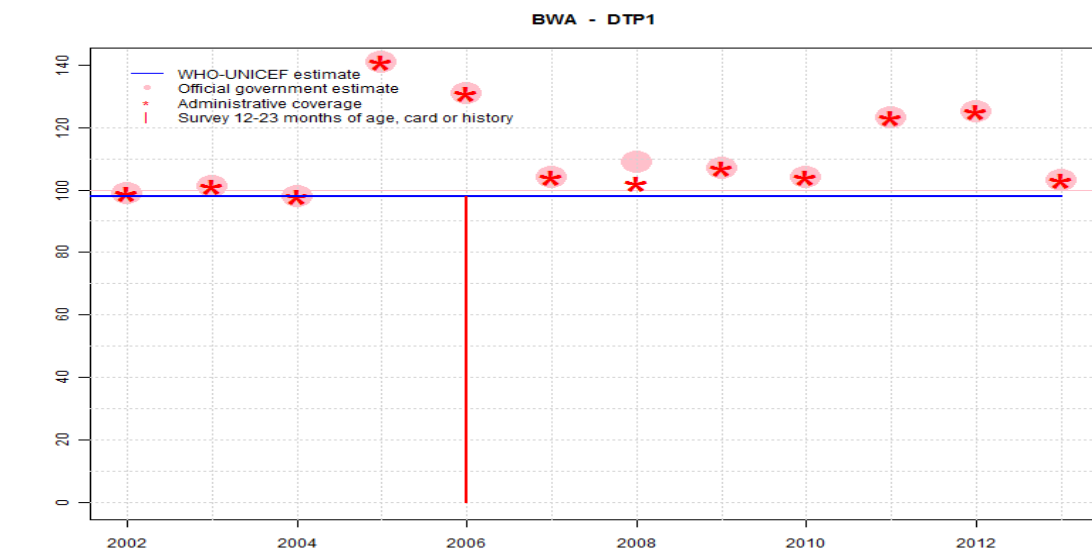
Description:

- 2002: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2003: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2004: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2005: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded. 126 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2006: Estimate based on survey results. Reported data excluded. 123 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2007: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensReported data excluded. Decline in reported coverage from 123 percent to 81 percent with increase to 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2008: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensGoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2009: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensReported data excluded. 101 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006

birth cohort.

- 2010: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 111 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2011: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 115 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2012: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 114 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2013: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 102 percent greater than 100 percent. Reported data excluded. Change in reported coverage from 114 level to 102 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a recent coverage evaluation survey and await the final results. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

Botswana - DTP1



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	98	98	98	98	98	98	98	98	98	98	98	98
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	99	101	98	141	131	104	109	107	104	123	125	103
Administrative	99	101	98	141	131	104	102	107	104	123	125	103
Survey	NA	NA	NA	NA	98	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.

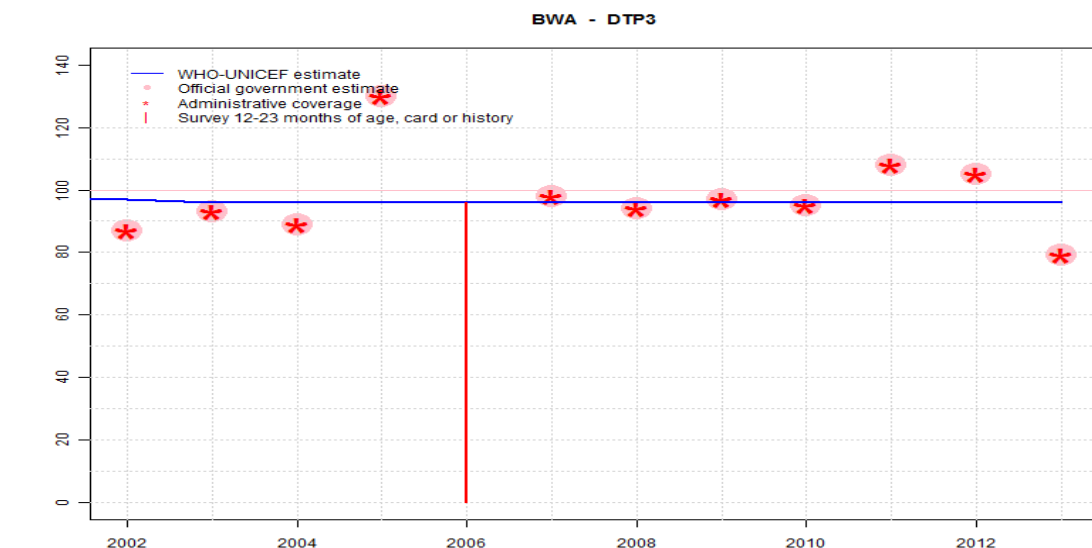
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2002: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2003: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded. 101 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2004: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2005: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded. 141 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2006: Estimate based on survey results. Reported data excluded. 131 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2007: Estimate based on extrapolation from data reported by national government. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensReported data excluded. 104 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2008: Estimate based on extrapolation from data reported by national government. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensReported data excluded. 109 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2009: Estimate based on extrapolation from data reported by national government. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensReported data excluded. 107 percent

- greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2010: Estimate based on extrapolation from data reported by national government. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 104 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2011: Estimate based on extrapolation from data reported by national government. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 123 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2012: Estimate based on extrapolation from data reported by national government. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 125 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2013: Estimate based on extrapolation from data reported by national government. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 103 percent greater than 100 percent. Reported data excluded. Change in reported coverage from 125 level to 103 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a recent coverage evaluation survey and await the final results. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

Botswana - DTP3



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	97	96	96	96	96	96	96	96	96	96	96	96
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	87	93	89	130	150	98	94	97	95	108	105	79
Administrative	87	93	89	130	150	98	94	97	95	108	105	79
Survey	NA	NA	NA	NA	96	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.

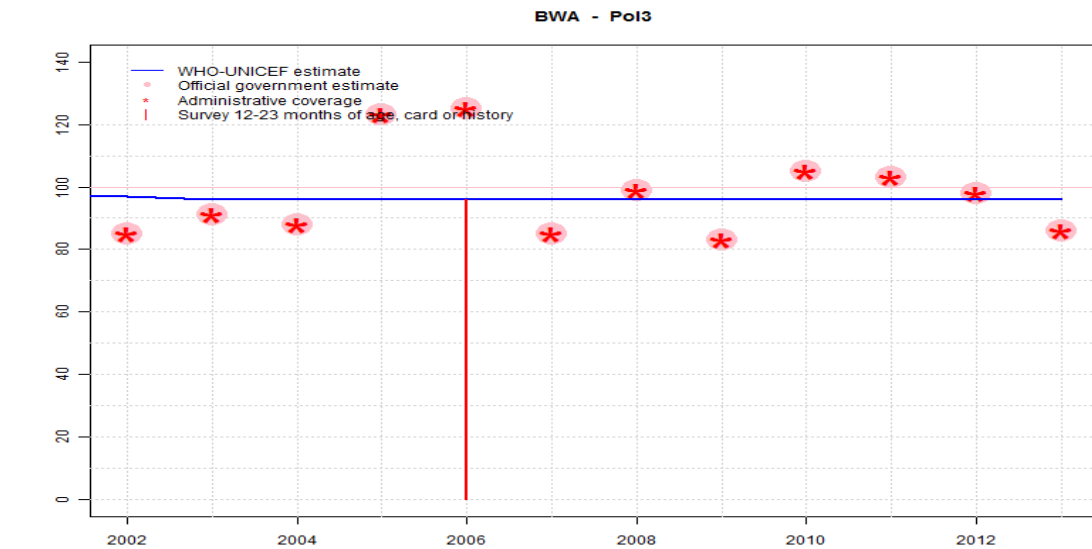
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2003: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2004: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2005: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded. 130 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2006: Estimate based on survey results. Reported data excluded. 150 percent greater than 100 percent. Reported data excluded. Unexplained increase from 130 percent to 150 percent with decrease 98 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2007: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2008: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2009: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

- 2010: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2011: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 108 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2012: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 105 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2013: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. Change in reported coverage from 105 level to 79 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a recent coverage evaluation survey and await the final results. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	97	96	96	96	96	96	96	96	96	96	96	96
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	85	91	88	123	125	85	99	83	105	103	98	86
Administrative	85	91	88	123	125	85	99	83	105	103	98	86
Survey	NA	NA	NA	NA	96	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 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2003: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2004: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2005: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded. 123 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2006: Estimate based on survey results. Reported data excluded. 125 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2007: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensReported data excluded. Decline in reported coverage from 125 percent to 85 percent with increase to 99 percent. Estimate of 96 percent changed from previous revision value of 97 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2008: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensReported data excluded. Unexplained increase from 85 percent to 99 percent with decrease 83 percent. Estimate of 96 percent changed from previous revision value of 98 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2009: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensRe-

ported data excluded. Decline in reported coverage from 99 percent to 83 percent with increase to 105 percent. Estimate of 96 percent changed from previous revision value of 99 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

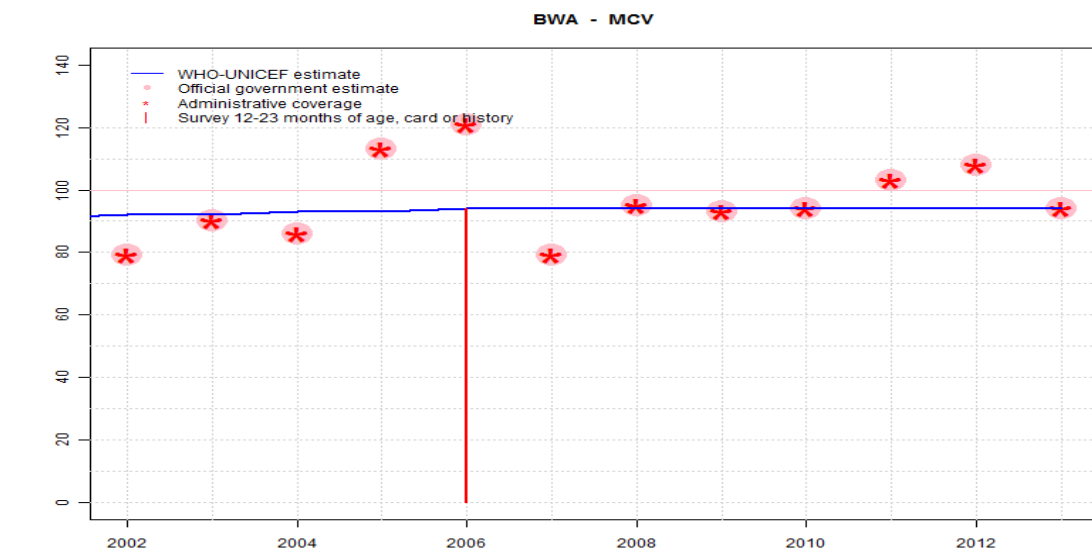
2010: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 105 percent greater than 100 percent. Estimate of 96 percent changed from previous revision value of 99 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

2011: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 103 percent greater than 100 percent. Estimate of 96 percent changed from previous revision value of 99 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

2012: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Estimate of 96 percent changed from previous revision value of 99 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

2013: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. Change in reported coverage from 98 level to 86 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a recent coverage evaluation survey and await the final results. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

Botswana - MCV



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	92	92	93	93	94	94	94	94	94	94	94	94
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	79	90	86	113	121	79	95	93	94	103	108	94
Administrative	79	90	86	113	121	79	95	93	94	103	108	94
Survey	NA	NA	NA	NA	94	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.

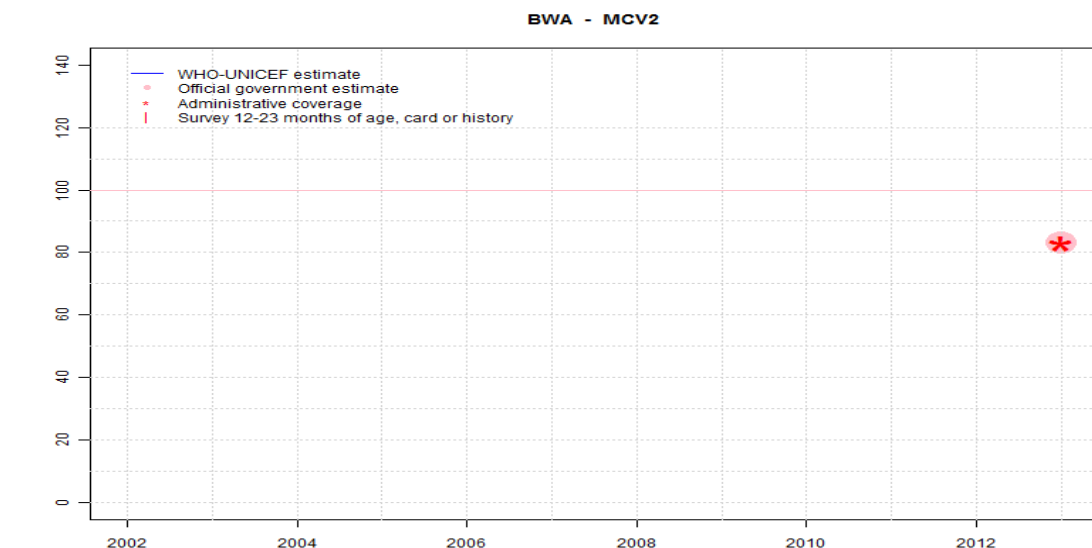
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2002: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2003: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2004: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2005: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded. 113 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2006: Estimate based on survey results. Reported data excluded. 121 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2007: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. Decline in reported coverage from 121 percent to 79 percent with increase to 95 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2008: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2009: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

- 2010: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens
GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2011: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens
Reported data excluded. 103 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2012: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens
Reported data excluded. 108 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2013: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens
Reported data excluded. Change in reported coverage from 108 level to 94 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a recent coverage evaluation survey and await the final results. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

Botswana - MCV2



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	83
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	83
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	83
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.

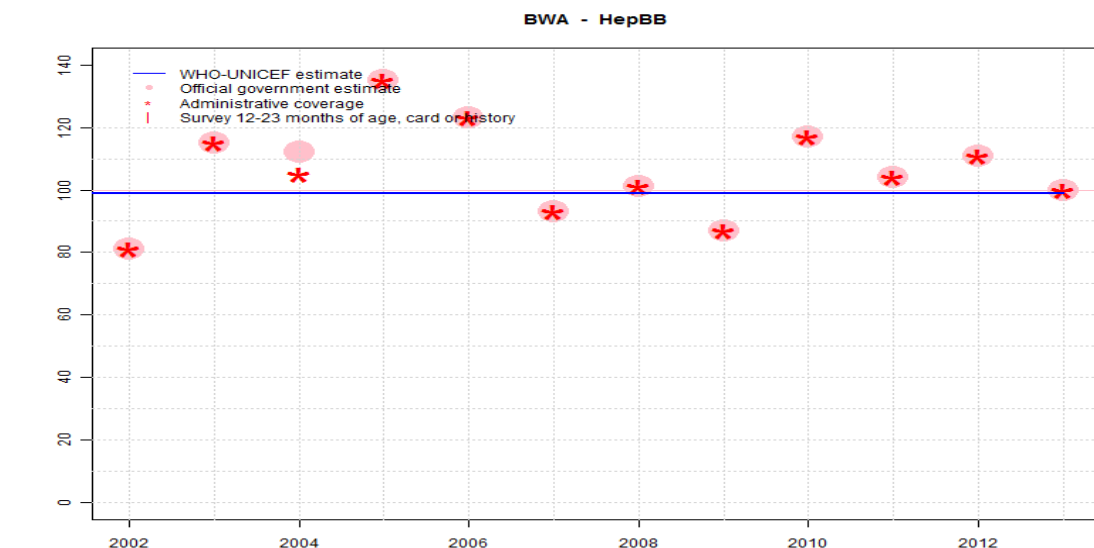
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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.

2013: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a recent coverage evaluation survey and await the final results. Measles 2nd dose introduced in 2011, reporting started in 2013. Recommended age of administration is 18 months. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.



	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	81	115	112	135	123	93	101	87	117	104	111	100
Administrative	81	115	105	135	123	93	101	87	117	104	111	100
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 2006 levels. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2003: Reported data calibrated to 2006 levels. Reported data excluded. 115 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2004: Reported data calibrated to 2006 levels. Reported data excluded. 112 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2005: Reported data calibrated to 2006 levels. Reported data excluded. 135 percent greater than 100 percent. Reported data excluded. Unexplained increase from 112 percent to 135 percent with decrease 123 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2006: HepB birth dose based on BCG coverage level. Reported data excluded. 123 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2007: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2008: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens Reported data excluded. 101 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2009: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens Reported data excluded. Decline in reported coverage from 101 percent to 87 percent with increase to 117 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2010: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens Reported data excluded. 117 percent greater than 100 percent. Reported

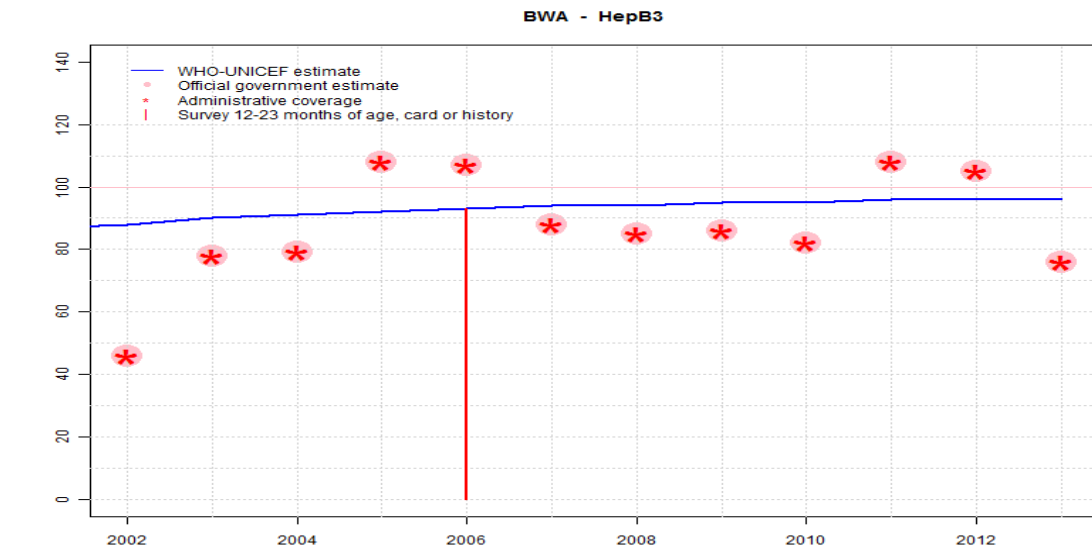
data excluded. Unexplained increase from 87 percent to 117 percent with decrease 104 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

2011: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 104 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

2012: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. 111 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

2013: Reported data calibrated to 2006 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens. Reported data excluded. Change in reported coverage from 111 level to 100 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a recent coverage evaluation survey and await the final results. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

Botswana - HepB3



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	88	90	91	92	93	94	94	95	95	96	96	96
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	46	78	79	108	107	88	85	86	82	108	105	76
Administrative	46	78	79	108	107	88	85	86	82	108	105	76
Survey	NA	NA	NA	NA	93	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.

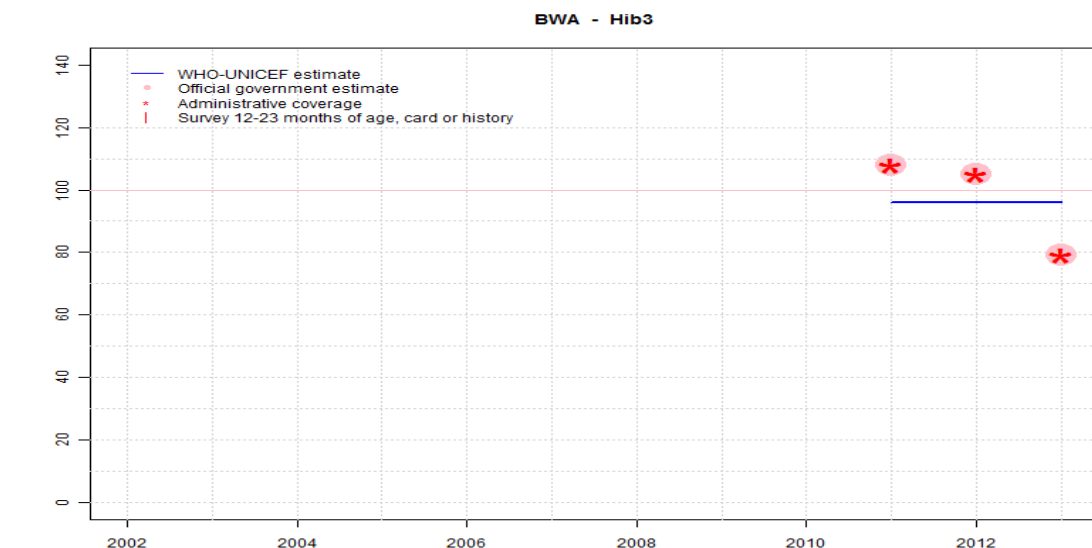
Description:

- 2002: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded. Decline in reported coverage from 64 percent to 46 percent with increase to 78 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2003: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2004: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2005: Estimate based on interpolation between 1999 and 2006 levels. Fluctuation in reported data suggest poor quality administrative recording and reporting. Reported data excluded. 108 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2006: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 93 percent based on 1 survey(s). Reported data excluded. 107 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2007: Reported data calibrated to 2006 and 2011 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2008: Reported data calibrated to 2006 and 2011 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2009: Reported data calibrated to 2006 and 2011 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey

for 2006 birth cohort.

- 2010: Reported data calibrated to 2006 and 2011 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigens GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2011: Based on DTP3 coverage Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensReported data excluded. 108 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2012: Reported data calibrated to 2011 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensReported data excluded. 105 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2013: Reported data calibrated to 2011 levels. Reported data excluded. Nationally reported data vary widely and exceed 100 percent for some antigensReported data excluded. Decline in reported coverage from 105 level to 76 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a recent coverage evaluation survey and await the final results. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

Botswana - Hib3



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	96	96	96
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	•	•	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	108	105	79
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	108	105	79
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.

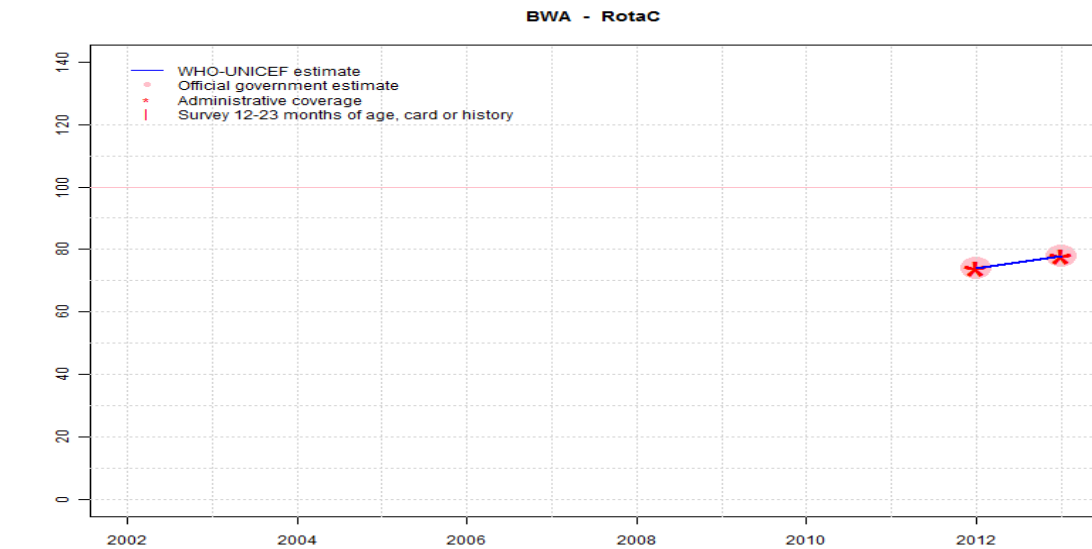
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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:

- 2011: Based on DTP3 coverage Reported data excluded. 108 percent greater than 100 percent. Hib vaccine introduced in 2011. The presentation is DTP-HepB-Hib. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2012: Based on DTP3 coverage estimate. Reported data excluded. 105 percent greater than 100 percent. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2013: Based on DTP3 coverage estimate. Reported data excluded. Decline in reported coverage from 105 level to 79 percent. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a recent coverage evaluation survey and await the final results. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

Botswana - RotaC



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	74	78
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	●	●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	74	78
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	74	78
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.

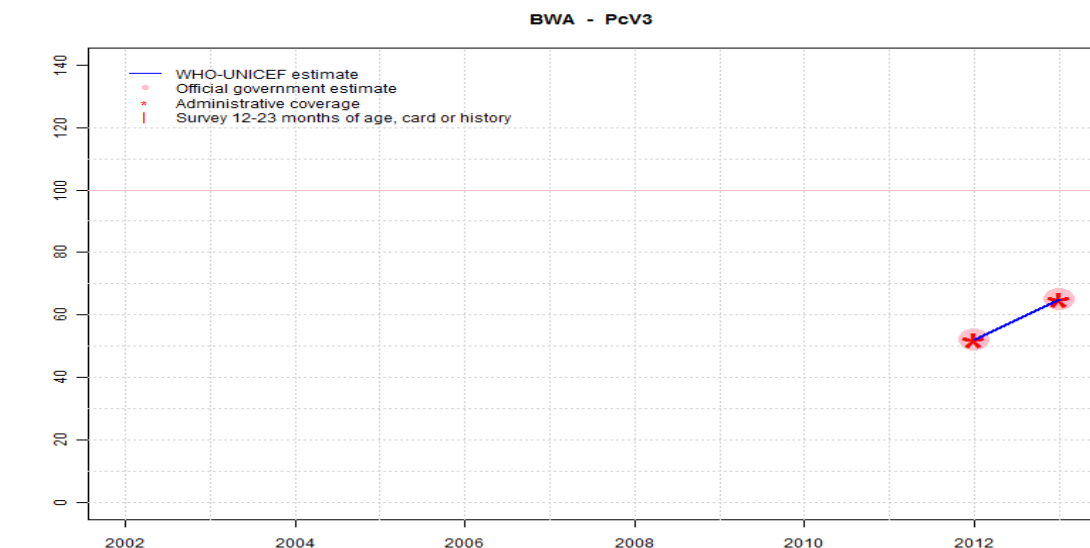
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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:

- 2012: Estimate based on coverage reported by national government. Rotavirus vaccine was introduced in 2012. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2013: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a recent coverage evaluation survey and await the final results. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

Botswana - PcV3



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52	65
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	●	●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52	65
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52	65
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:

- 2012: Estimate based on coverage reported by national government. Pneumococcal conjugate vaccine was introduced in 2012. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.
- 2013: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF are aware of a recent coverage evaluation survey and await the final results. GoC=Assigned by working group. Reported coverage and denominator are inconsistent, and the estimate is confirmed only by survey for 2006 birth cohort.

Botswana - survey details

2006 Botswana EPI Coverage Survey 2007

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	99	12-23 m	9083	98
DTP1	Card or History	98	12-23 m	9083	98
DTP3	Card or History	96	12-23 m	9083	98
HepB1	Card or History	97	12-23 m	9083	98
HepB3	Card or History	93	12-23 m	9083	98
MCV	Card or History	94	12-23 m	9083	98
Pol1	Card or History	97	12-23 m	9083	98
Pol3	Card or History	96	12-23 m	9083	98

1999 Botswana Multiple Indicator Cluster Survey 2000, 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	99	12-23 m	618	84
BCG	Card	87	12-23 m	618	84
BCG	Card or History	99	12-23 m	618	84
BCG	History	12	12-23 m	618	84

DTP1	C or H <12 months	98	12-23 m	618	84
DTP1	Card	86	12-23 m	618	84
DTP1	Card or History	98	12-23 m	618	84
DTP1	History	12	12-23 m	618	84
DTP3	C or H <12 months	94	12-23 m	618	84
DTP3	Card	85	12-23 m	618	84
DTP3	Card or History	97	12-23 m	618	84
DTP3	History	12	12-23 m	618	84
MCV	C or H <12 months	83	12-23 m	618	84
MCV	Card	78	12-23 m	618	84
MCV	Card or History	90	12-23 m	618	84
MCV	History	12	12-23 m	618	84
Pol1	C or H <12 months	98	12-23 m	618	84
Pol1	Card	86	12-23 m	618	84
Pol1	Card or History	98	12-23 m	618	84
Pol1	History	12	12-23 m	618	84
Pol3	C or H <12 months	94	12-23 m	618	84
Pol3	Card	85	12-23 m	618	84
Pol3	Card or History	97	12-23 m	618	84
Pol3	History	12	12-23 m	618	84

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

Botswana

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	82
2003	82
2004	83
2005	83
2006	84
2007	84
2008	85
2009	92
2010	92
2011	92
2012	92
2013	92

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.