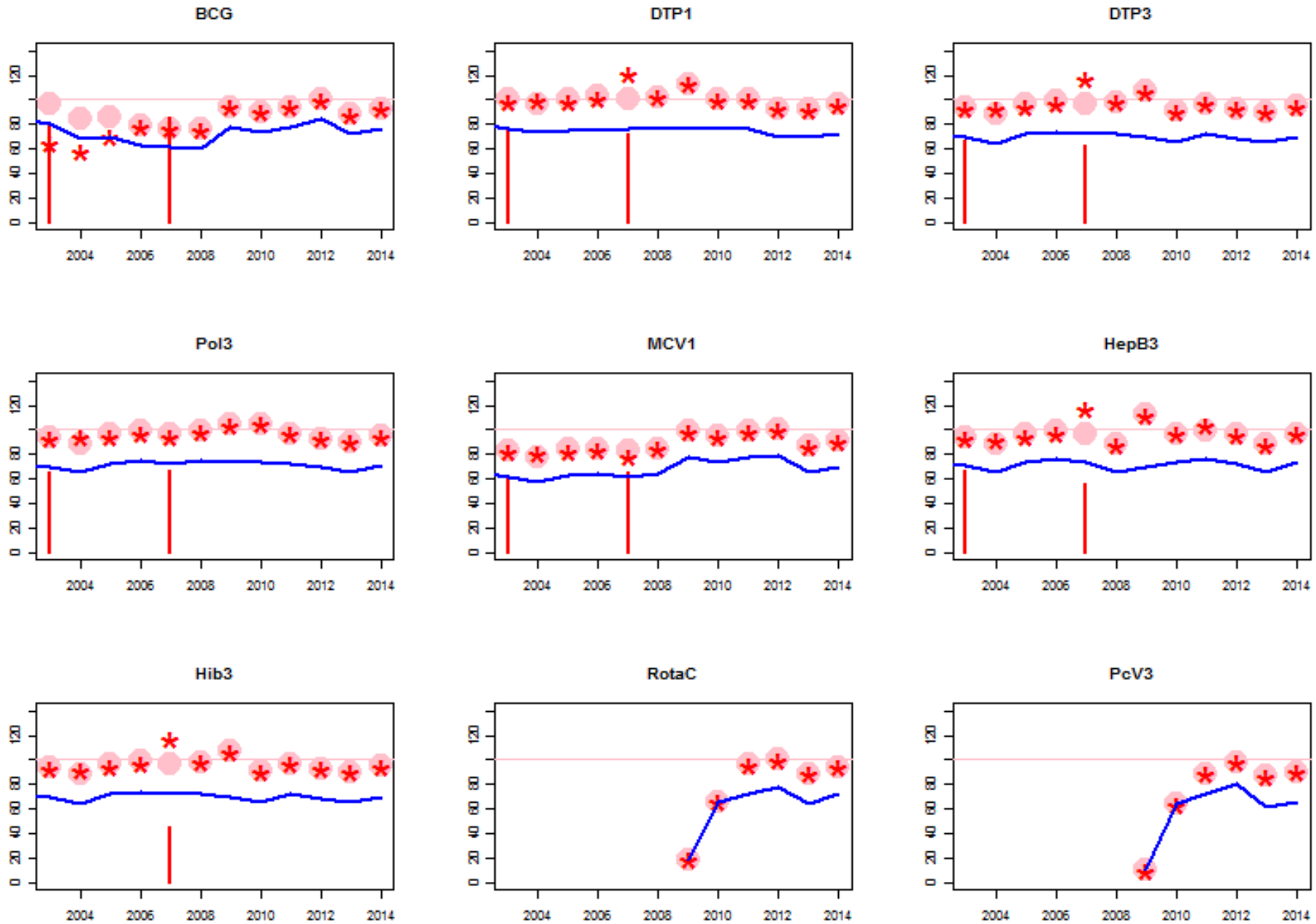
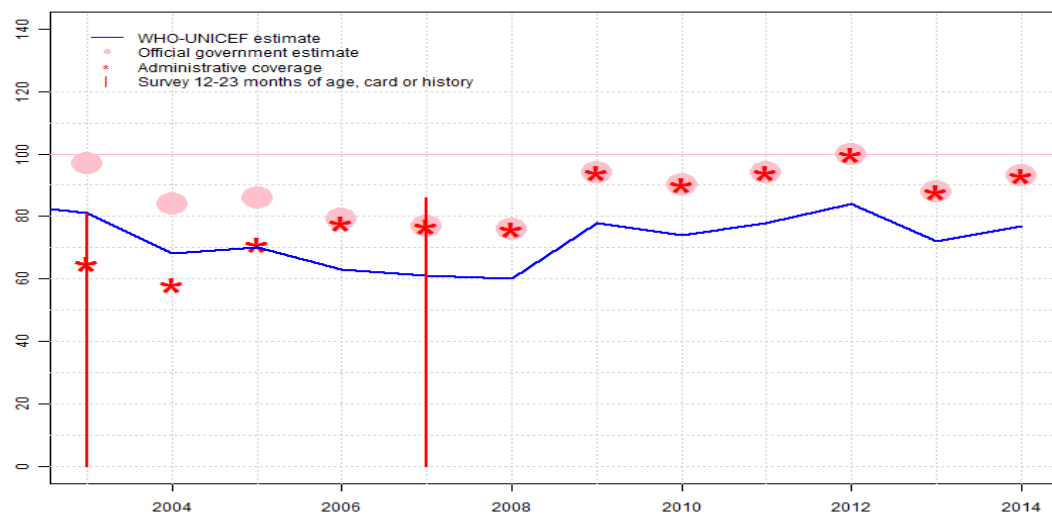


South Africa: WHO and UNICEF estimates of immunization coverage: 2014 revision



# South Africa - BCG

ZAF - BCG



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	81	68	70	63	61	60	78	74	78	84	72	77
Estimate GoC	•	•	•	•	•	•	•	••	••	••	•	•
Official	97	84	86	79	77	76	94	90	94	100	88	93
Administrative	65	58	71	78	77	76	94	90	94	100	88	93
Survey	81	NA	NA	NA	86	NA	NA	NA	NA	NA	NA	NA

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

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

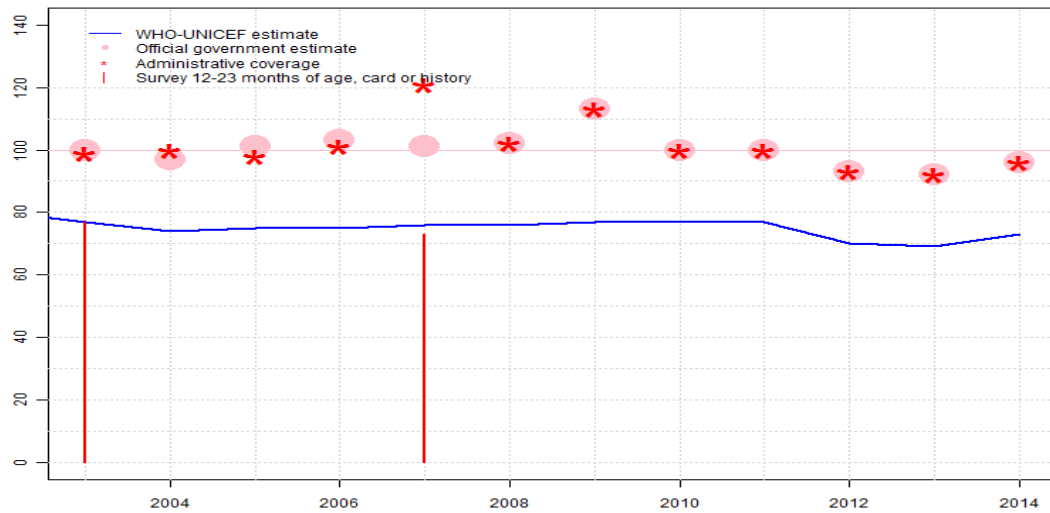
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 81 percent based on 1 survey(s). Estimate challenged by: D-R-
- 2004: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2005: Reported data calibrated to 2003 levels. Estimate challenged by: S-
- 2006: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2007: Reported data calibrated to 2003 levels. South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2008 results ignored by working group. Nonstandard analysis of survey results; awaiting clarification from national authorities. Estimate challenged by: D-S-
- 2007: Reported data calibrated to 2003 levels. South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2008 results ignored by working group. Nonstandard analysis of survey results; awaiting clarification from national authorities. Estimate challenged by: D-S-
- 2008: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2009: Reported data calibrated to 2003 levels. Estimate challenged by: S-
- 2010: Reported data calibrated to 2003 levels. GoC=D+
- 2011: Reported data calibrated to 2003 levels. GoC=D+
- 2012: Reported data calibrated to 2003 levels. GoC=D+
- 2013: Reported data calibrated to 2003 levels. Decreases in coverage may reflect use of revised target population estimates. Estimate of 72 percent changed from previous revision value of 84 percent. Estimate challenged by: D-
- 2014: Reported data calibrated to 2003 levels. Unexplained decline in reported target population for 2014 compared to 2013 following substantial increase in target population between 2012 and 2013. WHO and UNICEF encourage a revision of the reported coverage time series using updated population estimates following the release of the recent census. WHO and UNICEF also recommend a high quality coverage survey. Estimate challenged by: D-

# South Africa - DTP1

ZAF - DTP1



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	77	74	75	75	76	76	77	77	77	70	69	73
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	100	97	101	103	101	102	113	100	100	93	92	96
Administrative	99	100	98	101	121	102	113	100	100	93	92	96
Survey	77	NA	NA	NA	73	NA	NA	NA	NA	NA	NA	NA

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

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

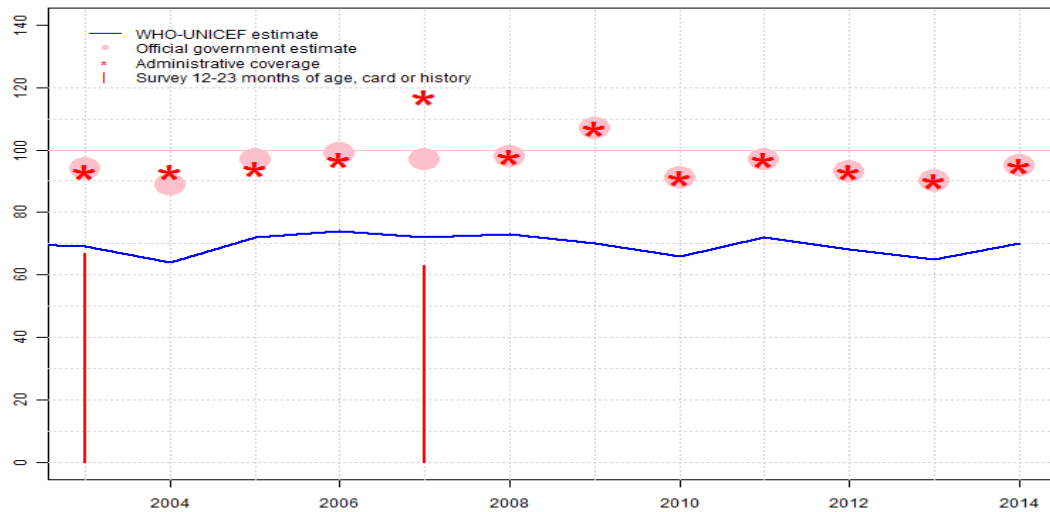
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 77 percent based on 1 survey(s). Estimate challenged by: D-R-
- 2004: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2005: Reported data calibrated to 2003 levels. Reported data excluded. 101 percent greater than 100 percent. Estimate challenged by: D-S-
- 2006: Reported data calibrated to 2003 levels. Reported data excluded. 103 percent greater than 100 percent. Estimate challenged by: D-S-
- 2007: Reported data calibrated to 2003 levels. South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2008 results ignored by working group. Nonstandard analysis of survey results; awaiting clarification from national authorities. Reported data excluded. 101 percent greater than 100 percent. Estimate challenged by: D-S-
- 2008: Reported data calibrated to 2003 levels. Reported data excluded. 102 percent greater than 100 percent. Estimate challenged by: D-S-
- 2009: Reported data calibrated to 2003 levels. Reported data excluded. 113 percent greater than 100 percent. Reported data excluded. Unexplained increase from 102 percent to 113 percent with decrease 100 percent. Estimate challenged by: S-
- 2010: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2011: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2012: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2013: Reported data calibrated to 2003 levels. Decreases in coverage may reflect use of revised target population estimates. Estimate challenged by: D-
- 2014: Reported data calibrated to 2003 levels. Unexplained decline in reported target population for 2014 compared to 2013 following substantial increase in target population between 2012 and 2013. WHO and UNICEF encourage a revision of the reported coverage time series using updated population estimates following the release of the recent census. WHO and UNICEF also recommend a high quality coverage survey. Estimate challenged by: D-

# South Africa - DTP3

ZAF - DTP3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	69	64	72	74	72	73	70	66	72	68	65	70
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	94	89	97	99	97	98	107	91	97	93	90	95
Administrative	93	93	94	97	117	98	107	91	97	93	90	95
Survey	67	NA	NA	NA	63	NA	NA	NA	NA	NA	NA	NA

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

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

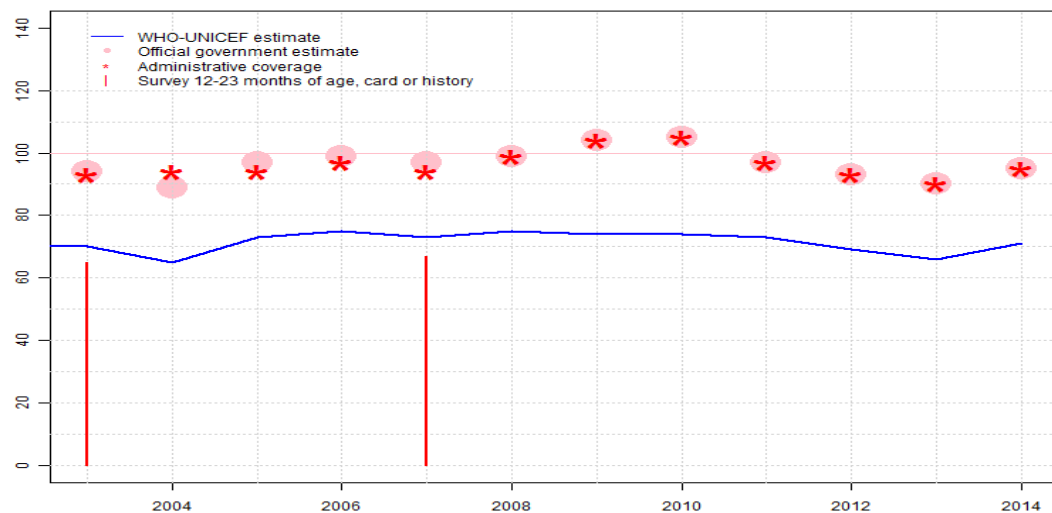
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 69 percent based on 1 survey(s). South Africa Demographic and Health Survey 2003 card or history results of 67 percent modified for recall bias to 69 percent based on 1st dose card or history coverage of 77 percent, 1st dose card only coverage of 68 percent and 3d dose card only coverage of 61 percent. Estimate challenged by: D-R-
- 2004: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2005: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2006: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2007: Reported data calibrated to 2003 levels. South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2008 results ignored by working group. Nonstandard analysis of survey results; awaiting clarification from national authorities. Estimate challenged by: D-S-
- 2008: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2009: Reported data calibrated to 2003 levels. Reported data excluded. 107 percent greater than 100 percent. Estimate challenged by: S-
- 2010: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2011: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2012: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2013: Reported data calibrated to 2003 levels. Decreases in coverage may reflect use of revised target population estimates. Estimate challenged by: D-
- 2014: Reported data calibrated to 2003 levels. Unexplained decline in reported target population for 2014 compared to 2013 following substantial increase in target population between 2012 and 2013. WHO and UNICEF encourage a revision of the reported coverage time series using updated population estimates following the release of the recent census. WHO and UNICEF also recommend a high quality coverage survey. Estimate challenged by: D-

# South Africa - Pol3

ZAF - Pol3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	70	65	73	75	73	75	74	74	73	69	66	71
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	94	89	97	99	97	99	104	105	97	93	90	95
Administrative	93	94	94	97	94	99	104	105	97	93	90	95
Survey	65	NA	NA	NA	67	NA	NA	NA	NA	NA	NA	NA

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

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

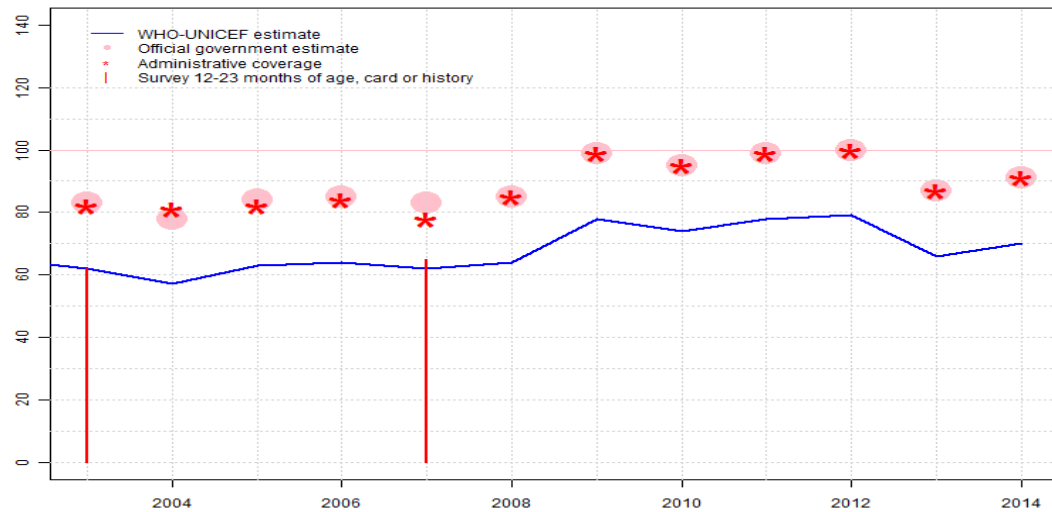
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 70 percent based on 1 survey(s). South Africa Demographic and Health Survey 2003 card or history results of 65 percent modified for recall bias to 70 percent based on 1st dose card or history coverage of 78 percent, 1st dose card only coverage of 70 percent and 3d dose card only coverage of 63 percent. Estimate challenged by: D-R-
- 2004: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2005: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2006: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2006: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2007: Reported data calibrated to 2003 levels. South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2008 results ignored by working group. Nonstandard analysis of survey results; awaiting clarification from national authorities. Estimate challenged by: D-S-
- 2007: Reported data calibrated to 2003 levels. South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2008 results ignored by working group. Nonstandard analysis of survey results; awaiting clarification from national authorities. Estimate challenged by: D-S-
- 2008: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2009: Reported data calibrated to 2003 levels. Reported data excluded. 104 percent greater than 100 percent. Estimate challenged by: S-
- 2010: Reported data calibrated to 2003 levels. Reported data excluded. 105 percent greater than 100 percent. Estimate challenged by: D-
- 2011: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2012: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2013: Reported data calibrated to 2003 levels. Decreases in coverage may reflect use of revised target population estimates. Estimate challenged by: D-
- 2014: Reported data calibrated to 2003 levels. Unexplained decline in reported target population for 2014 compared to 2013 following substantial increase in target population between 2012 and 2013. WHO and UNICEF encourage a revision of the reported coverage time series using updated population estimates following the release of the recent census. WHO and UNICEF also recommend a high quality coverage survey. Estimate challenged by: D-

# South Africa - MCV1

ZAF - MCV1



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	62	57	63	64	62	64	78	74	78	79	66	70
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	83	78	84	85	83	85	99	95	99	100	87	91
Administrative	82	81	82	84	78	85	99	95	99	100	87	91
Survey	62	NA	NA	NA	65	NA	NA	NA	NA	NA	NA	NA

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

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

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

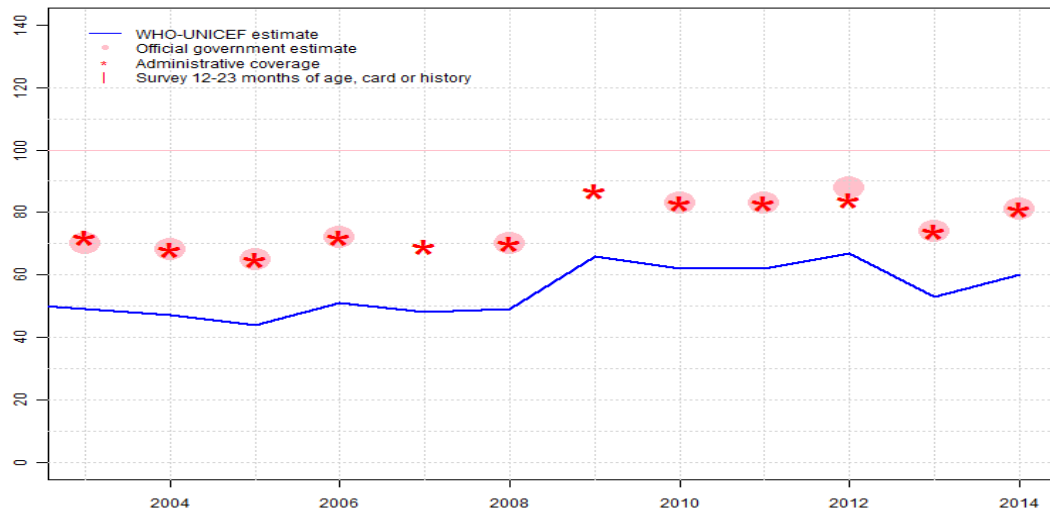
## Description:

- 2003: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 62 percent based on 1 survey(s). Estimate challenged by: D-R-
- 2004: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2005: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2006: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2007: Reported data calibrated to 2003 levels. South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2008 results ignored by working group. Nonstandard analysis of survey results; awaiting clarification from national authorities. Estimate challenged by: D-S-
- 2008: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2009: Reported data calibrated to 2003 levels. Estimate challenged by: S-
- 2010: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2011: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2012: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2013: Reported data calibrated to 2003 levels. Decreases in coverage may reflect use of revised target population estimates. Decline in reported coverage may be due to 2 months of stock outs. Estimate challenged by: D-
- 2014: Reported data calibrated to 2003 levels. Unexplained decline in reported target population for 2014 compared to 2013 following substantial increase in target population between 2012 and 2013. WHO and UNICEF encourage a revision of the reported coverage time series using updated population estimates following the release of the recent census. WHO and UNICEF also recommend a high quality coverage survey. Estimate challenged by: D-



# South Africa - MCV2

ZAF - MCV2



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	49	47	44	51	48	49	66	62	62	67	53	60
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	70	68	65	72	NA	70	NA	83	83	88	74	81
Administrative	72	68	65	72	69	70	87	83	83	84	74	81
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

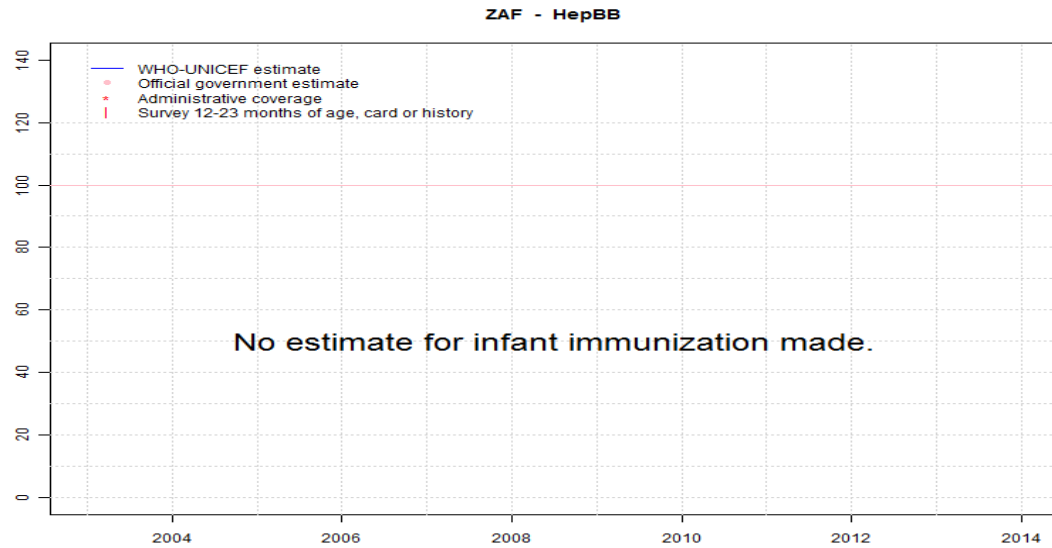
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

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

- 2003: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-
- 2004: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-
- 2005: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-S-
- 2006: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-S-
- 2007: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-S-
- 2007: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-S-
- 2007: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-S-
- 2008: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-S-
- 2009: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: R-S-
- 2010: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-
- 2011: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-
- 2012: Estimates follows reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-
- 2013: Estimates follows reported data calibrated based on MCV adjustment factor. Decreases in coverage may reflect use of revised target population estimates. Decline in reported coverage may be due to 2 months of stock outs. Estimate challenged by: D-R-
- 2014: Estimates follows reported data calibrated based on MCV adjustment factor. Unexplained decline in reported target population for 2014 compared to 2013 following substantial increase in target population between 2012 and 2013. WHO and UNICEF encourage a revision of the reported coverage time series using updated population estimates following the release of the recent census. WHO and UNICEF also recommend a high quality coverage survey. Estimate challenged by: D-R-

# South Africa - HepBB



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

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

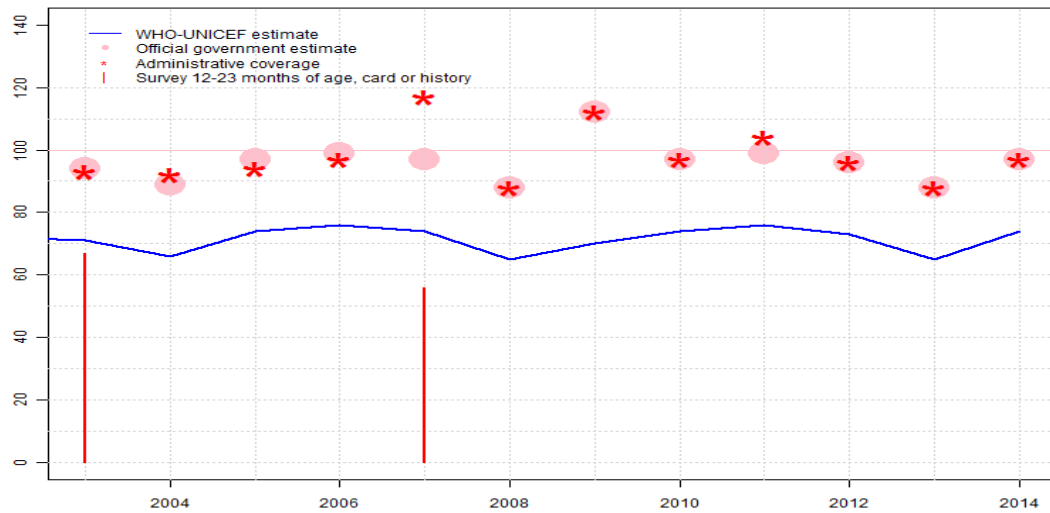
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk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

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



# South Africa - HepB3

ZAF - HepB3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	71	66	74	76	74	65	70	74	76	73	65	74
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	94	89	97	99	97	88	112	97	99	96	88	97
Administrative	93	92	94	97	117	88	112	97	104	96	88	97
Survey	67	NA	NA	NA	56	NA	NA	NA	NA	NA	NA	NA

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

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

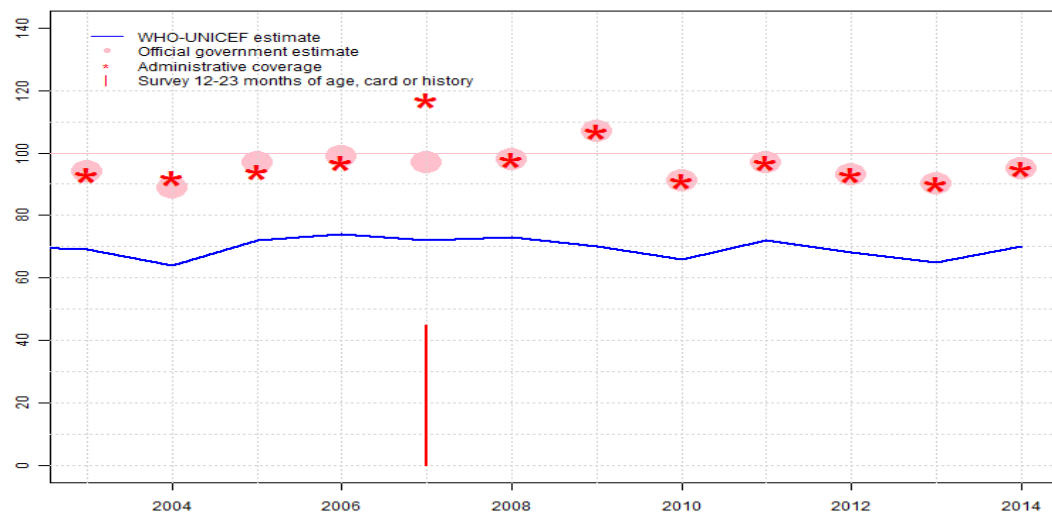
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 71 percent based on 1 survey(s). South Africa Demographic and Health Survey 2003 card or history results of 67 percent modified for recall bias to 71 percent based on 1st dose card or history coverage of 77 percent, 1st dose card only coverage of 68 percent and 3d dose card only coverage of 63 percent. Estimate challenged by: D-R-
- 2004: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2005: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2006: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2007: Reported data calibrated to 2003 levels. South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2008 results ignored by working group. Nonstandard analysis of survey results; awaiting clarification from national authorities. Estimate challenged by: D-S-
- 2008: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2009: Reported data calibrated to 2003 levels. Reported data excluded. 112 percent greater than 100 percent. Reported data excluded. Unexplained increase from 88 percent to 112 percent with decrease 97 percent. Estimate challenged by: S-
- 2010: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2011: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2012: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2013: Reported data calibrated to 2003 levels. Decreases in coverage may reflect use of revised target population estimates. Estimate challenged by: D-
- 2014: Reported data calibrated to 2003 levels. Unexplained decline in reported target population for 2014 compared to 2013 following substantial increase in target population between 2012 and 2013. WHO and UNICEF encourage a revision of the reported coverage time series using updated population estimates following the release of the recent census. WHO and UNICEF also recommend a high quality coverage survey. Estimate challenged by: D-

# South Africa - Hib3

ZAF - Hib3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	69	64	72	74	72	73	70	66	72	68	65	70
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	94	89	97	99	97	98	107	91	97	93	90	95
Administrative	93	92	94	97	117	98	107	91	97	93	90	95
Survey	NA	NA	NA	NA	45	NA	NA	NA	NA	NA	NA	NA

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

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

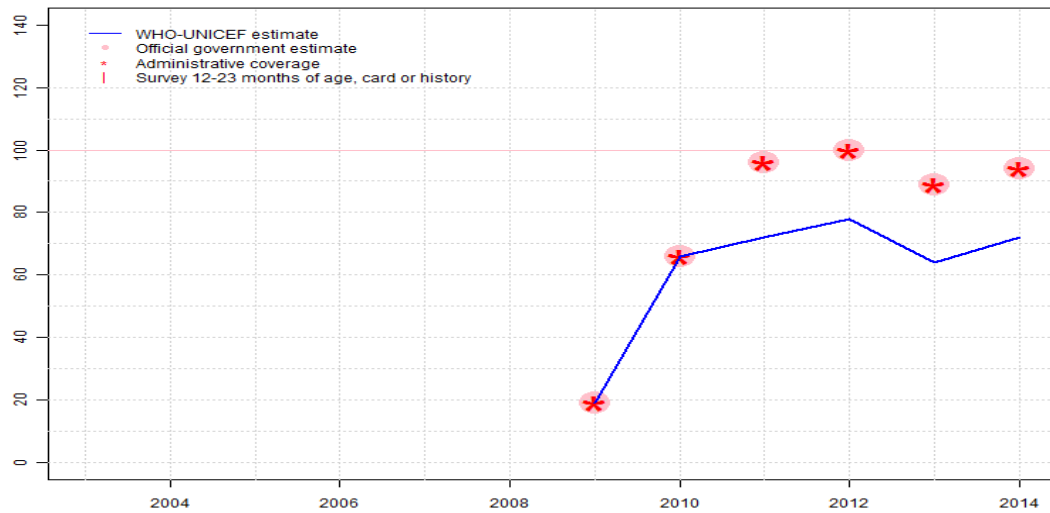
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Estimate follows DTP3 levels. Estimate challenged by: D-R-
- 2004: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2005: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2006: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2007: Reported data calibrated to 2003 levels. South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2008 results ignored by working group. Nonstandard analysis of survey results; awaiting clarification from national authorities. Estimate challenged by: D-S-
- 2008: Reported data calibrated to 2003 levels. Estimate challenged by: D-S-
- 2009: Reported data calibrated to 2003 levels. Reported data excluded. 107 percent greater than 100 percent. Estimate challenged by: S-
- 2010: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2011: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2012: Reported data calibrated to 2003 levels. Estimate challenged by: D-
- 2013: Reported data calibrated to 2003 levels. Decreases in coverage may reflect use of revised target population estimates. Estimate challenged by: D-
- 2014: Reported data calibrated to 2003 levels. Unexplained decline in reported target population for 2014 compared to 2013 following substantial increase in target population between 2012 and 2013. WHO and UNICEF encourage a revision of the reported coverage time series using updated population estimates following the release of the recent census. WHO and UNICEF also recommend a high quality coverage survey. Estimate challenged by: D-

# South Africa - RotaC

ZAF - RotaC



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	19	66	72	78	64	72
Estimate GoC	NA	NA	NA	NA	NA	NA	••	••	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	19	66	96	100	89	94
Administrative	NA	NA	NA	NA	NA	NA	19	66	96	100	89	94
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.

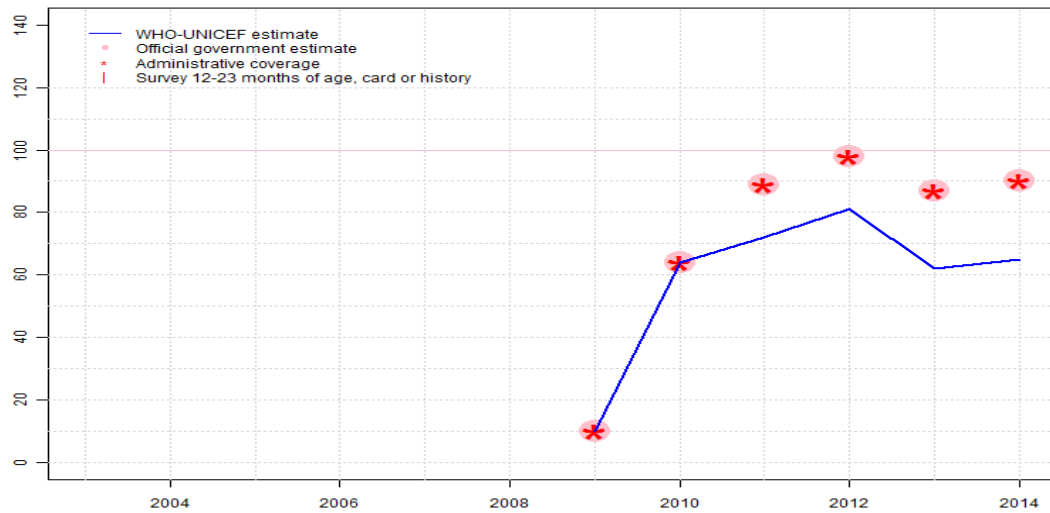
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2009: Estimate based on coverage reported by national government. Rotavirus vaccine introduced in 2009 GoC=R+
- 2010: Estimate based on coverage reported by national government. GoC=R+D+
- 2011: Estimates set to DTP3 levels. Estimate challenged by: D-R-
- 2012: Estimates follows reported data calibrated down based on adjustment factor from DTP3 calculation. Estimate challenged by: D-R-
- 2013: Estimates follows reported data calibrated down based on adjustment factor from DTP3 calculation. Decreases in coverage may reflect use of revised target population estimates. Estimate challenged by: D-R-
- 2014: Estimates follows reported data calibrated down based on adjustment factor from DTP3 calculation. Unexplained decline in reported target population for 2014 compared to 2013 following substantial increase in target population between 2012 and 2013. WHO and UNICEF encourage a revision of the reported coverage time series using updated population estimates following the release of the recent census. WHO and UNICEF also recommend a high quality coverage survey. Estimate challenged by: D-R-

# South Africa - PcV3

ZAF - PcV3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	10	64	72	81	62	65
Estimate GoC	NA	NA	NA	NA	NA	NA	••	••	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	10	64	89	98	87	90
Administrative	NA	NA	NA	NA	NA	NA	10	64	89	98	87	90
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:

- 2009: Estimate based on coverage reported by national government. Pneumococcal conjugate vaccine introduced in 2009 GoC=R+
- 2010: Estimate based on coverage reported by national government. GoC=R+D+
- 2011: Estimates set to DTP3 levels. Estimate challenged by: R-
- 2012: Estimates follows reported data calibrated down based on adjustment factor from DTP3 calculation. Estimate challenged by: R-
- 2013: Estimates follows reported data calibrated down based on adjustment factor from DTP3 calculation. Decreases in coverage may reflect use of revised target population estimates. Estimate challenged by: D-R-
- 2014: Estimates follows reported data calibrated down based on adjustment factor from DTP3 calculation. Unexplained decline in reported target population for 2014 compared to 2013 following substantial increase in target population between 2012 and 2013. WHO and UNICEF encourage a revision of the reported coverage time series using updated population estimates following the release of the recent census. WHO and UNICEF also recommend a high quality coverage survey. Estimate challenged by: D-R-

# South Africa - survey details

## 2007 South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2008

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	74	12-23 m	776	69
BCG	Card or History	86	12-23 m	776	69
BCG	History	86	12-23 m	776	69
DTP1	Card	64	12-23 m	776	69
DTP1	Card or History	73	12-23 m	776	69
DTP1	History	76	12-23 m	776	69
DTP3	Card	55	12-23 m	776	69
DTP3	Card or History	63	12-23 m	776	69
DTP3	History	66	12-23 m	776	69
HepB3	Card	50	12-23 m	776	69
HepB3	Card or History	56	12-23 m	776	69
HepB3	History	56	12-23 m	776	69
Hib3	Card	40	12-23 m	776	69
Hib3	Card or History	45	12-23 m	776	69
Hib3	History	48	12-23 m	776	69
MCV1	Card	56	12-23 m	776	69
MCV1	Card or History	65	12-23 m	776	69
MCV1	History	69	12-23 m	776	69
Pol3	Card	59	12-23 m	776	69
Pol3	Card or History	67	12-23 m	776	69
Pol3	History	69	12-23 m	776	69

## 2003 South Africa Demographic and Health Survey 2003

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	81	12-23 m	408	71
BCG	Card	71	12-23 m	408	71
BCG	Card or History	81	12-23 m	408	71
BCG	History	10	12-23 m	408	71
DTP1	C or H <12 months	67	12-23 m	408	71
DTP1	Card	68	12-23 m	408	71
DTP1	Card or History	77	12-23 m	408	71
DTP1	History	9	12-23 m	408	71
DTP3	C or H <12 months	50	12-23 m	408	71

DTP3	Card	61	12-23 m	408	71
DTP3	Card or History	67	12-23 m	408	71
DTP3	History	6	12-23 m	408	71
HepB1	C or H <12 months	68	12-23 m	408	71
HepB1	Card	68	12-23 m	408	71
HepB1	Card or History	77	12-23 m	408	71
HepB1	History	8	12-23 m	408	71
HepB3	C or H <12 months	49	12-23 m	408	71
HepB3	Card	63	12-23 m	408	71
HepB3	Card or History	67	12-23 m	408	71
HepB3	History	4	12-23 m	408	71
MCV1	C or H <12 months	22	12-23 m	408	71
MCV1	Card	56	12-23 m	408	71
MCV1	Card or History	62	12-23 m	408	71
MCV1	History	6	12-23 m	408	71
Pol1	C or H <12 months	69	12-23 m	408	71
Pol1	Card	70	12-23 m	408	71
Pol1	Card or History	78	12-23 m	408	71
Pol1	History	9	12-23 m	408	71
Pol3	C or H <12 months	50	12-23 m	408	71
Pol3	Card	63	12-23 m	408	71
Pol3	Card or History	65	12-23 m	408	71
Pol3	History	2	12-23 m	408	71

## 1997 South Africa Demographic and Health Survey 1998

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	96	12-23 m	973	75
BCG	Card or History	97	12-23 m	973	75
DTP1	C or H <12 months	93	12-23 m	973	75
DTP1	Card or History	93	12-23 m	973	75
DTP3	C or H <12 months	74	12-23 m	973	75
DTP3	Card or History	76	12-23 m	973	75
HepB1	C or H <12 months	88	12-23 m	973	75
HepB1	Card or History	88	12-23 m	973	75
HepB3	C or H <12 months	72	12-23 m	973	75
HepB3	Card or History	74	12-23 m	973	75
MCV1	C or H <12 months	72	12-23 m	973	75
MCV1	Card or History	82	12-23 m	973	75

## South Africa - survey details

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Pol1	C or H <12 months	90	12-23 m	973	75
Pol1	Card or History	91	12-23 m	973	75
Pol3	C or H <12 months	70	12-23 m	973	75

Pol3	Card or History	72	12-23 m	973	75
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Further information and estimates for previous years are available at:

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

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



## South Africa

### WHO/UNICEF Estimates of Protection at Birth (PAB) against tetanus

In countries where tetanus is recommended for girls and women coverage is usually reported as "TT2+", i.e. the proportion of (pregnant) women who have received their second or superior TT dose in a given year. TT2 + coverage, however, can under-represent the actual proportion of births that are protected against tetanus as it does not include women who have previously received protective doses, women who received one dose without documentation of previous doses, and women who received doses in TT (or Td) supplemental immunization activities (SIA). In addition, girls who have received DTP in their childhood and are entering childbearing age, may be protected with TT booster doses.

WHO and UNICEF have developed a model that takes into account the above scenarios, and calculates the proportion of births in a given year that can be considered as having been protected against tetanus - "Protection at Birth".

In this model, annual cohorts of women are followed from infancy through their life. A proportion receives DTP in infancy (estimated based on the WHO-UNICEF estimates of DTP3 coverage). In addition some of these women also receive TT through routine services when they are pregnant and may also receive TT during SIAs. The model also adjusts reported data, taking into account coverage patterns in other years, and/or results available through surveys. The duration of protection is then calculated, based on WHO estimates of the duration of protection by doses ever received. The proportion of births that are protected against tetanus as a result of maternal immunization reflects the tetanus immunization received by the mother throughout her life rather than simply the TT immunizations received during the current pregnancy.

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

Year	PAB coverage estimate (%)
2003	61
2004	60
2005	59
2006	74
2007	72
2008	75
2009	75
2010	77
2011	77
2012	77
2013	77
2014	80

<sup>1</sup> This model is described in: Griffiths U., Wolfson L., Quddus A., Younus M., Hafiz R.. Incremental cost-effectiveness of supplementary immunization activities to prevent neo-natal tetanus in Pakistan. Bulletin of the World Health Organization 2004; 82:643-651.