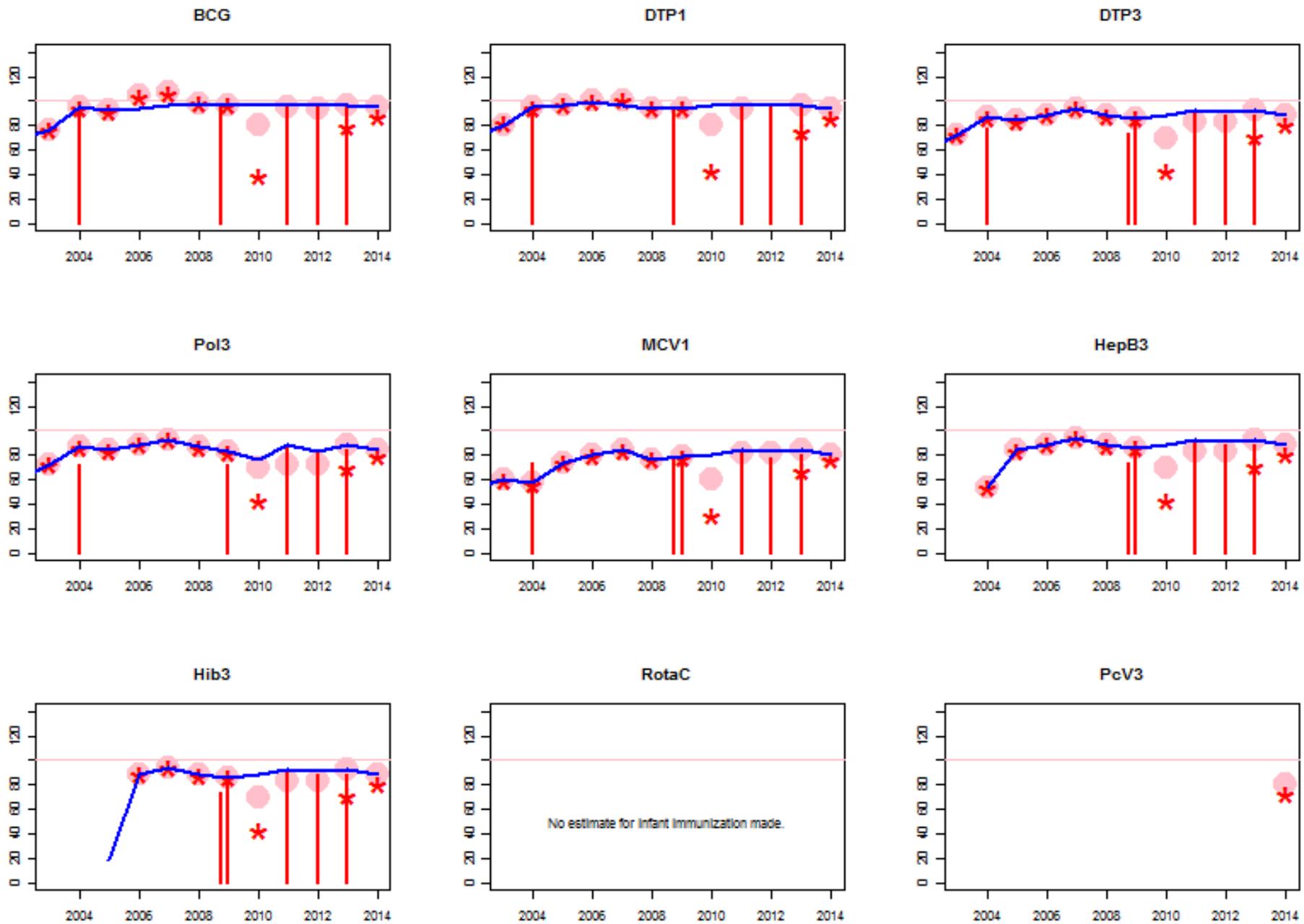
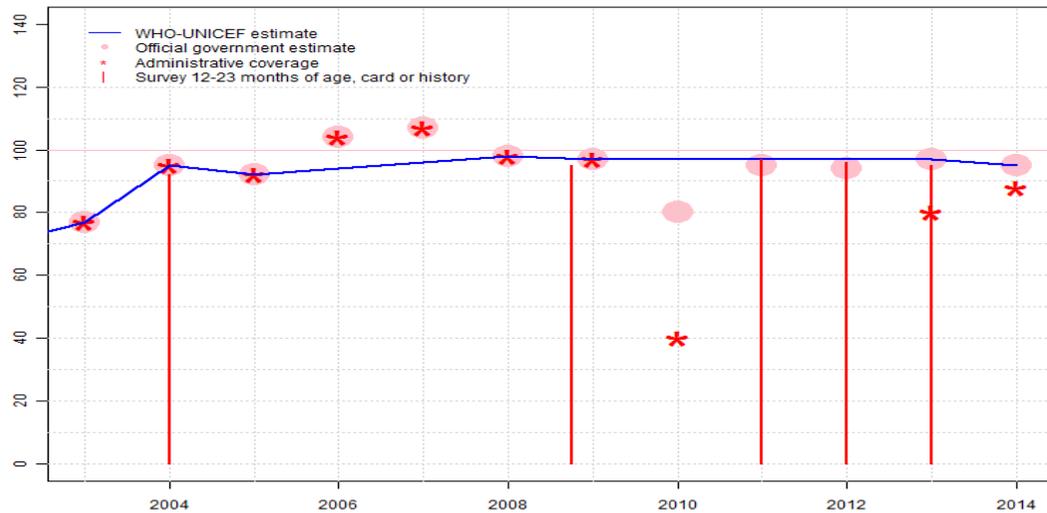


Senegal: WHO and UNICEF estimates of immunization coverage: 2014 revision



# Senegal - BCG

SEN - BCG



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	77	95	92	94	96	98	97	97	97	97	97	95
Estimate GoC	●●	●	●	●●	●●	●●●	●●●	●	●	●●	●	●●●
Official	77	95	92	104	107	98	97	80	95	94	97	95
Administrative	77	95	92	104	107	98	97	40	NA	NA	80	88
Survey	NA	92	NA	NA	NA	NA	*	NA	97	96	95	NA

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

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

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

## Description:

- 2003: Estimate based on coverage reported by national government. GoC=R+ D+
- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Estimate challenged by: D-
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2006: Estimate based on interpolation between coverage reported by national government. Reported data excluded. 104 percent greater than 100 percent. GoC=S+ D+
- 2007: Estimate based on interpolation between coverage reported by national government. Reported data excluded. 107 percent greater than 100 percent. GoC=S+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 2 survey(s). Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=R+ S+ D+
- 2010: Reported data calibrated to 2009 and 2011 levels. Reported data excluded. Decline in reported coverage from 97 percent to 80 percent with increase to 95 percent. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: D-
- 2011: Estimates are based on final 2011 DHS results. Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: R-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=S+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Official government estimates are based on 2013 survey results. Estimate challenged

# Senegal - BCG

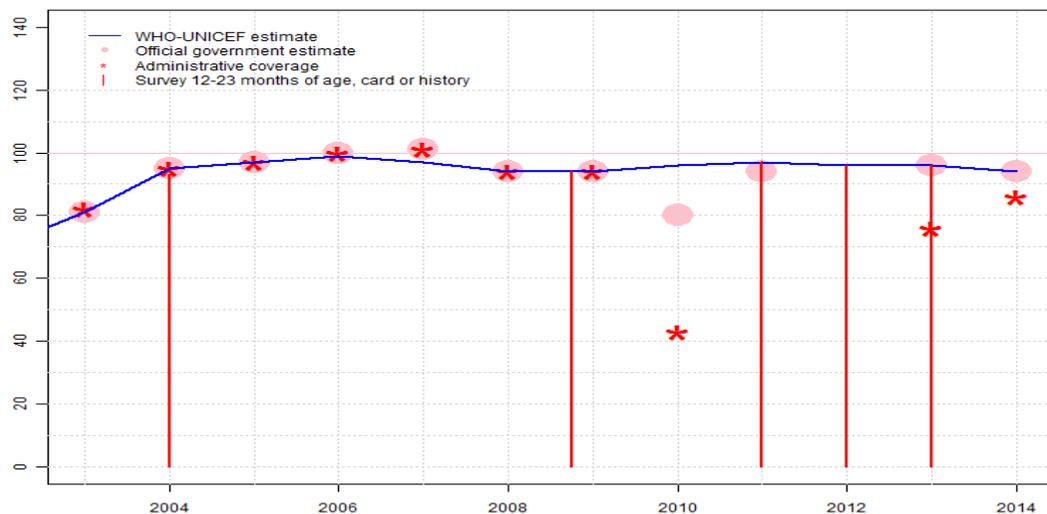
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by: D-

2014: Estimate based on coverage reported by national government. GoC=R+ S+  
D+

# Senegal - DTP1

SEN - DTP1



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	81	95	97	99	97	94	94	80	94	NA	96	94
Estimate GoC	••	•••	•	•••	••	•••	•••	•	•	••	•	•••
Official	81	95	97	100	101	94	94	80	94	NA	96	94
Administrative	82	95	97	100	101	94	94	43	NA	NA	76	86
Survey	NA	93	NA	NA	NA	NA	*	NA	97	96	96	NA

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

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

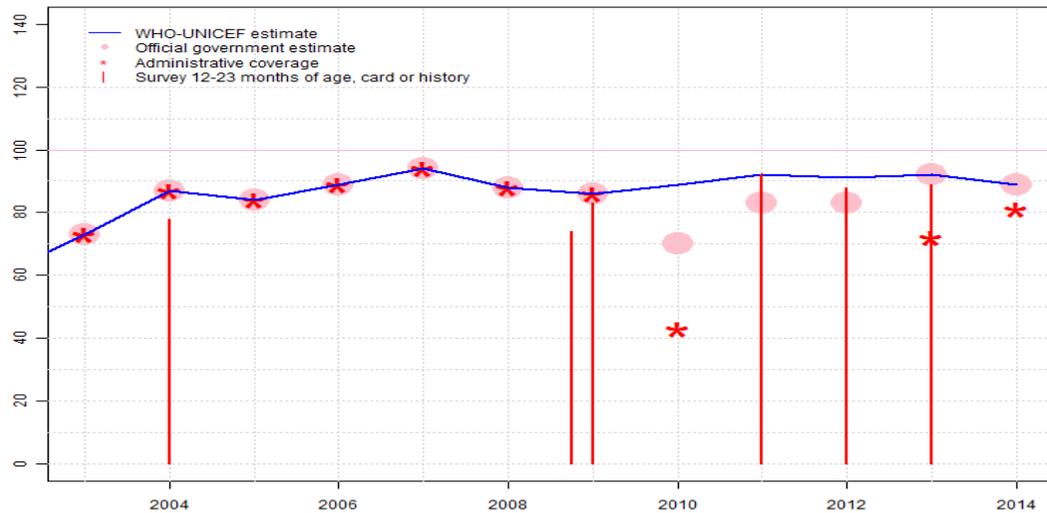
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2003: Estimate based on coverage reported by national government. GoC=R+ D+
- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 93 percent based on 1 survey(s). GoC=R+ S+ D+
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2007: Estimate based on interpolation between coverage reported by national government. Reported data excluded. 101 percent greater than 100 percent. GoC=S+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2009: Estimate based on reported data. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=R+ S+ D+
- 2010: Reported data calibrated to 2009 and 2011 levels. Reported data excluded. Decline in reported coverage from 94 percent to 80 percent with increase to 94 percent. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: D-
- 2011: Estimates are based on final 2011 DHS results. Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: R-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=S+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Official government estimates are based on 2013 survey results. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. GoC=R+ S+ D+

# Senegal - DTP3

SEN - DTP3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	73	87	84	89	94	88	86	89	92	91	92	89
Estimate GoC	●●●	●●●	●	●●●	●●	●●●	●●●	●	●	●●	●	●●●
Official	73	87	84	89	94	88	86	70	83	83	92	89
Administrative	73	87	84	89	94	88	86	43	NA	NA	72	81
Survey	NA	78	NA	NA	NA	NA	*	NA	92	88	89	NA

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

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

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

## Description:

- 2003: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). Senegal Demographic and Health Survey 2005 card or history results of 78 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 93 percent, 1st dose card only coverage of 68 percent and 3d dose card only coverage of 61 percent. GoC=R+ S+ D+
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2009: Estimate based on reported data. Senegal EPI External Review 2010 card or history results of 74 percent modified for recall bias to 67 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 72 percent and 3d dose card only coverage of 51 percent. Senegal Demographic and Health Survey 2010-2011 card or history results of 83 percent modified for recall bias to 88 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 64 percent and 3d dose card only coverage of 60 percent. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=R+ S+ D+
- 2010: Reported data calibrated to 2009 and 2011 levels. Reported data excluded. Decline in reported coverage from 86 percent to 70 percent with increase to 83 percent. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: D-
- 2011: Estimates are based on final 2011 DHS results. NA card or history results of 92 percent modified for recall bias to 91 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 78 percent and 3d dose card only coverage of 73 percent. Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: R-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 88 percent based on 1

# Senegal - DTP3

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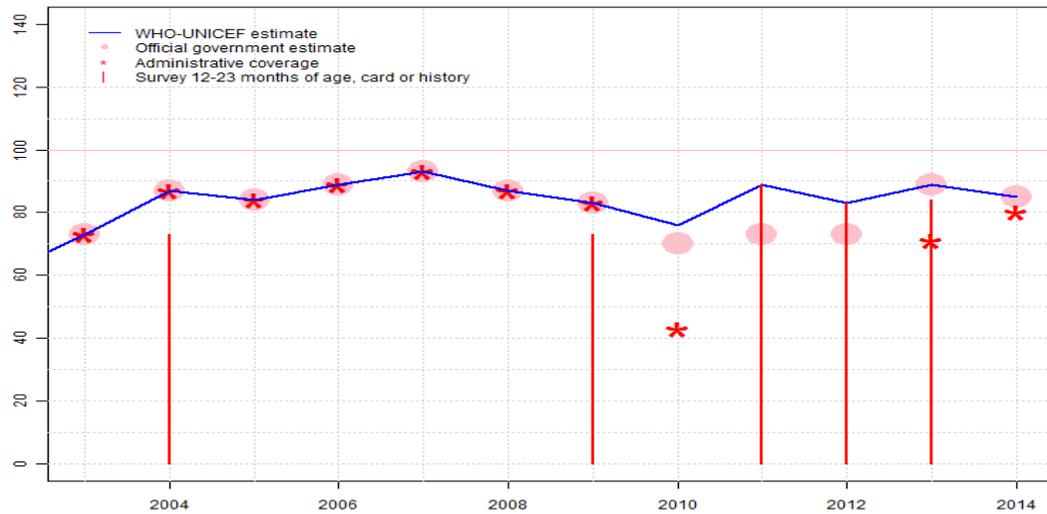
survey(s). Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=S+

2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Official government estimates are based on 2013 survey results. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. GoC=R+ S+ D+

# Senegal - Pol3

SEN - Pol3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	73	87	84	89	93	87	83	76	89	83	89	85
Estimate GoC	●●●	●●●	●	●●●	●●●	●●●	●●●	●	●	●●	●	●●●
Official	73	87	84	89	93	87	83	70	73	73	89	85
Administrative	73	87	84	89	93	87	83	43	NA	NA	71	80
Survey	NA	73	NA	NA	NA	NA	73	NA	89	83	84	NA

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

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

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

## Description:

- 2003: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). Senegal Demographic and Health Survey 2005 card or history results of 73 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 69 percent and 3d dose card only coverage of 61 percent. GoC=R+ S+ D+
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Senegal Demographic and Health Survey 2010-2011 card or history results of 73 percent modified for recall bias to 88 percent based on 1st dose card or history coverage of 95 percent, 1st dose card only coverage of 65 percent and 3d dose card only coverage of 60 percent. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=R+ S+ D+
- 2010: Reported data calibrated to 2009 and 2011 levels. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate of 76 percent changed from previous revision value of 79 percent. Estimate challenged by: D-
- 2011: Estimates are based on final 2011 DHS results. NA card or history results of 89 percent modified for recall bias to 87 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 65 percent and 3d dose card only coverage of 60 percent. Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: R-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did

# Senegal - Pol3

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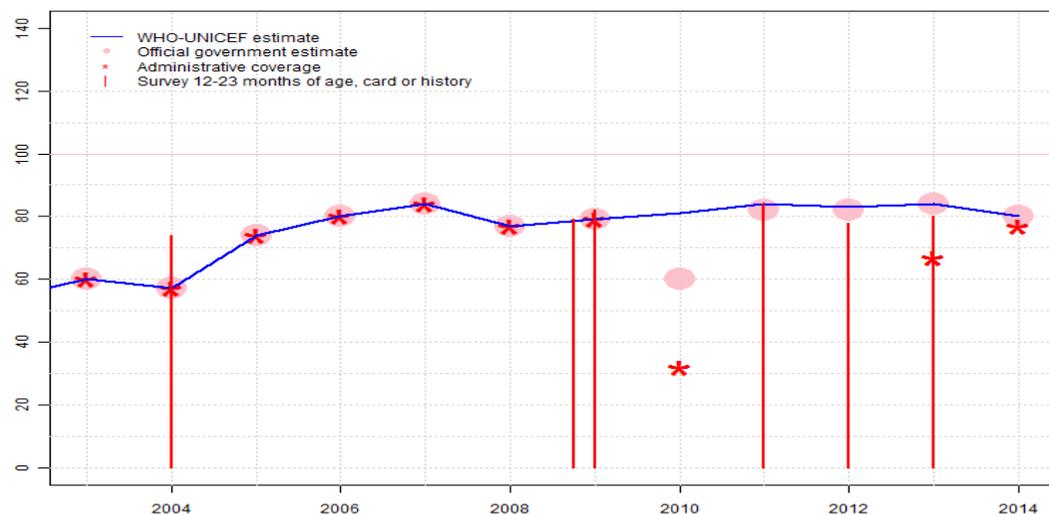
not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=S+

2013: Estimate is based on official government estimate. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Official government estimates are based on 2013 survey results. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. GoC=R+ S+ D+

# Senegal - MCV1

SEN - MCV1



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	60	57	74	80	84	77	79	81	84	83	84	80
Estimate GoC	•	•	•	•	•••	•••	•••	•	•	••	•	•••
Official	60	57	74	80	84	77	79	60	82	82	84	80
Administrative	60	57	74	80	84	77	79	32	NA	NA	67	77
Survey	NA	74	NA	NA	NA	NA	*	NA	84	78	80	NA

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

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

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

## Description:

- 2003: Estimate based on coverage reported by national government. Estimate challenged by: S-
- 2004: Estimate based on coverage reported by national government. Senegal Demographic and Health Survey 2005 results ignored by working group. DHS survey results most likely reflect late immunization of children to compensate for vaccine shortage in 2004. Estimate challenged by: S-
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2006: Estimate based on coverage reported by national government. Estimate challenged by: S-
- 2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 81 percent based on 2 survey(s). Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=R+ S+ D+
- 2010: Reported data calibrated to 2009 and 2011 levels. Reported data excluded. Decline in reported coverage from 79 percent to 60 percent with increase to 82 percent. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: D-
- 2011: Estimates are based on final 2011 DHS results. Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: R-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 78 percent based on 1 survey(s). Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=S+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 80 percent based on 1 survey(s). Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Official government estimates are based on 2013 survey results. Estimate challenged by: D-

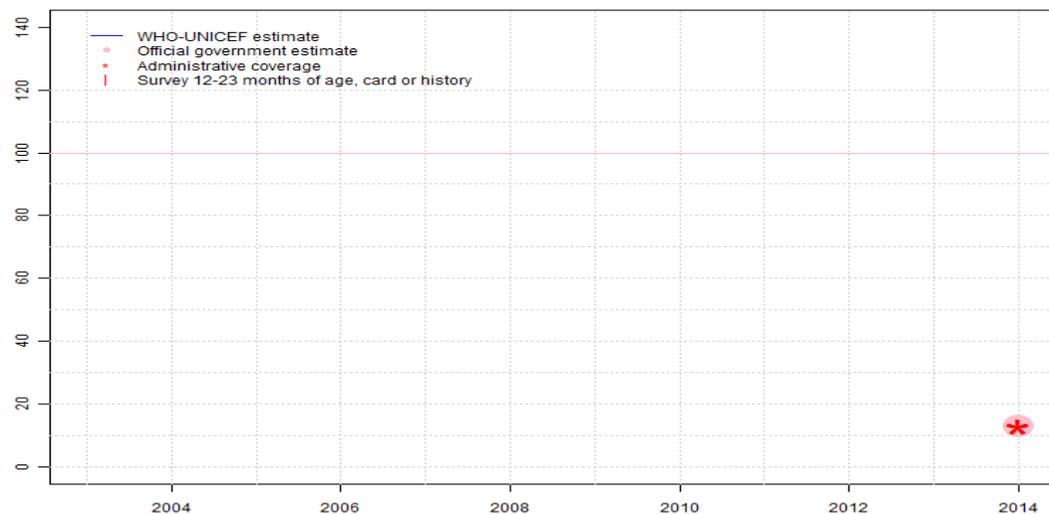
# Senegal - MCV1

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2014: Estimate based on coverage reported by national government. GoC=R+ S+  
D+

# Senegal - MCV2

SEN - MCV2



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	13										
Estimate GoC	NA	●										
Official	NA	13										
Administrative	NA	13										
Survey	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.

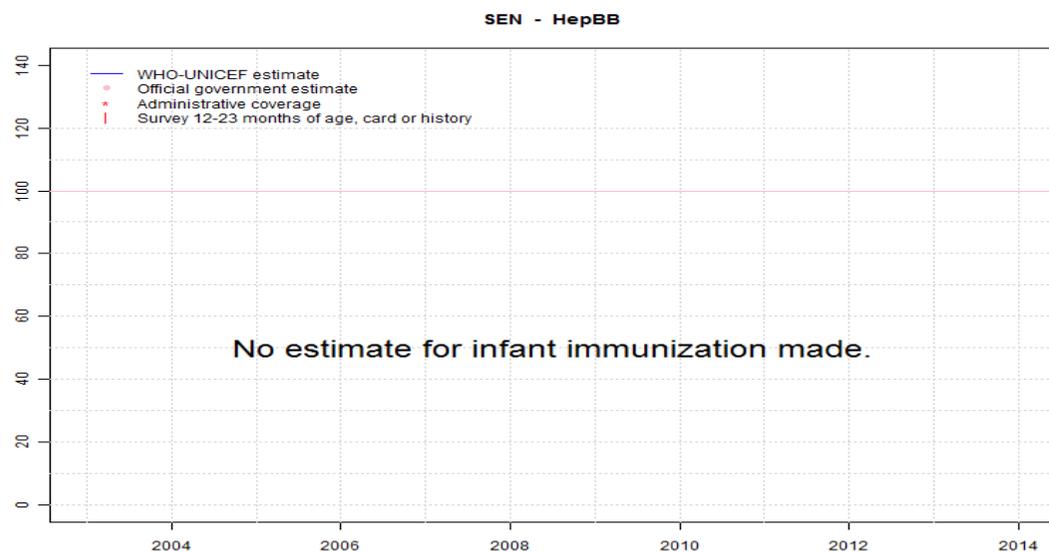
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

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

2014: Estimate based on coverage reported by national government. Introduced in national schedule in October 2014, recommended administration at 15 months, vaccine presentation MR. GoC=Assigned by working group. Introduction period.

# Senegal - HepBB



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

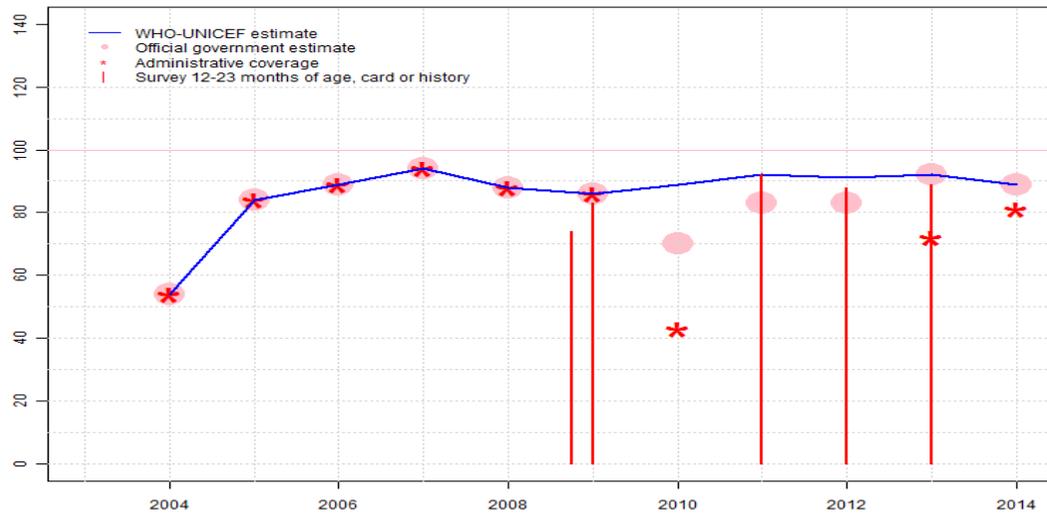
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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.

# Senegal - HepB3

SEN - HepB3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	54	84	89	94	88	86	89	92	91	92	89
Estimate GoC	NA	●●	●	●●	●●	●●●	●●●	●	●	●●	●	●●
Official	NA	54	84	89	94	88	86	70	83	83	92	89
Administrative	NA	54	84	89	94	88	86	43	NA	NA	72	81
Survey	NA	NA	NA	NA	NA	NA	*	NA	92	88	89	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:

- 2004: Estimate based on reported data. HepB vaccine introduced in 2004 Vaccine presentation is DTP-HepB-Hib. GoC=R+ D+
- 2005: Estimate based on reported data. Estimate challenged by: D-
- 2006: Estimate based on reported data. GoC=R+ D+
- 2007: Estimate based on reported data. GoC=R+ D+
- 2008: Estimate based on reported data. GoC=R+ S+ D+
- 2009: Estimate based on reported data. Senegal EPI External Review 2010 card or history results of 74 percent modified for recall bias to 67 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 72 percent and 3d dose card only coverage of 51 percent. Senegal Demographic and Health Survey 2010-2011 card or history results of 83 percent modified for recall bias to 88 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 64 percent and 3d dose card only coverage of 60 percent. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=R+ S+ D+
- 2010: Reported data calibrated to 2009 and 2011 levels. Reported data excluded. Decline in reported coverage from 86 percent to 70 percent with increase to 83 percent. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=R+ S+ D+
- 2011: Estimates are based on final 2011 DHS results. NA card or history results of 92 percent modified for recall bias to 91 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 78 percent and 3d dose card only coverage of 73 percent. Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: D-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=S+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Official government estimates are based on 2013 survey results. Estimate challenged by: D-

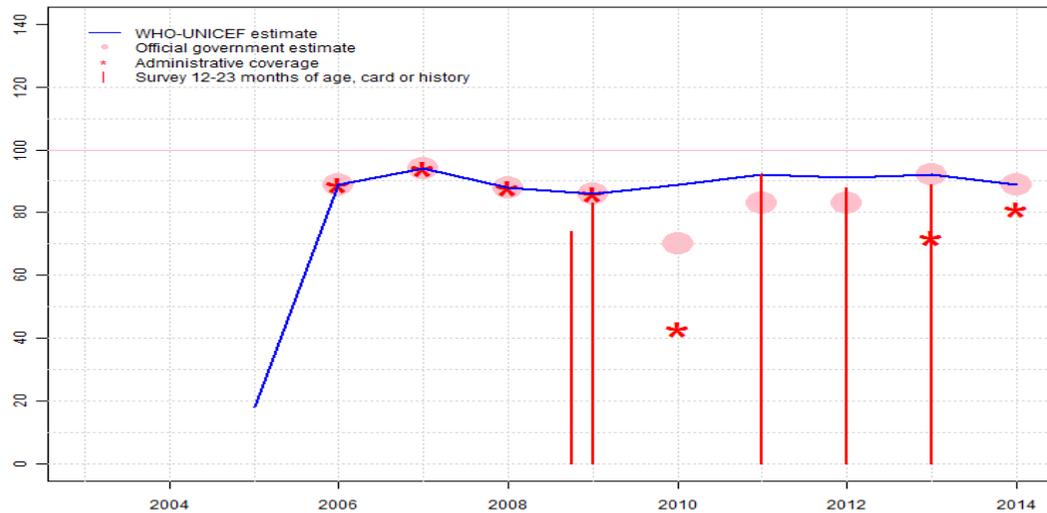
# Senegal - HepB3

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2014: Estimate based on coverage reported by national government. GoC=R+ S+

# Senegal - Hib3

SEN - Hib3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	18	89	94	88	86	89	92	91	92	89
Estimate GoC	NA	NA	••	••	••	•••	•••	•	•	••	•	•••
Official	NA	NA	NA	89	94	88	86	70	83	83	92	89
Administrative	NA	NA	NA	89	94	88	86	43	NA	NA	72	81
Survey	NA	NA	NA	NA	NA	NA	*	NA	92	88	89	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:

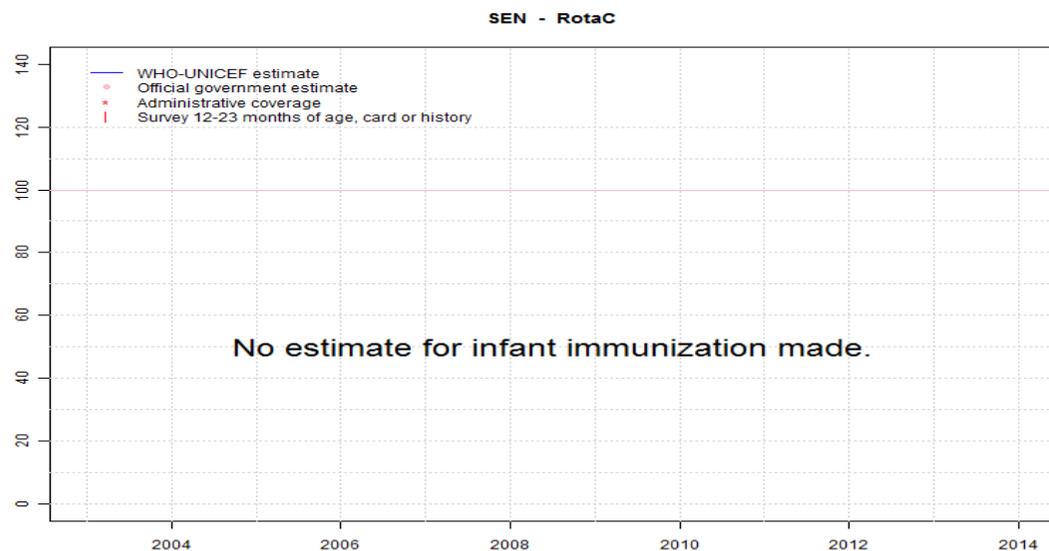
- 2005: DTP-HepB-Hib pentavalent vaccine introduced in July 2005. Coverage of 67 percent was reached in 25 percent of the country Hib vaccine introduced in 2005 Vaccine presentation is DTP-HepB-Hib. GoC=D+
- 2006: Estimate based on reported data. GoC=R+ D+
- 2007: Estimate based on reported data. GoC=R+ D+
- 2008: Estimate based on reported data. GoC=R+ S+ D+
- 2009: Estimate based on reported data. Senegal EPI External Review 2010 card or history results of 74 percent modified for recall bias to 67 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 72 percent and 3d dose card only coverage of 51 percent. Senegal Demographic and Health Survey 2010-2011 card or history results of 83 percent modified for recall bias to 88 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 64 percent and 3d dose card only coverage of 60 percent. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=R+ S+ D+
- 2010: Reported data calibrated to 2009 and 2011 levels. Reported data excluded. Decline in reported coverage from 86 percent to 70 percent with increase to 83 percent. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=R+ S+ D+
- 2011: Estimates are based on final 2011 DHS results. NA card or history results of 92 percent modified for recall bias to 91 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 78 percent and 3d dose card only coverage of 73 percent. Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: D-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=S+
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Official government estimates are based on 2013 survey results. Estimate challenged by: D-

# Senegal - Hib3

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2014: Estimate based on coverage reported by national government. GoC=R+ S+  
D+

# Senegal - RotaC



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

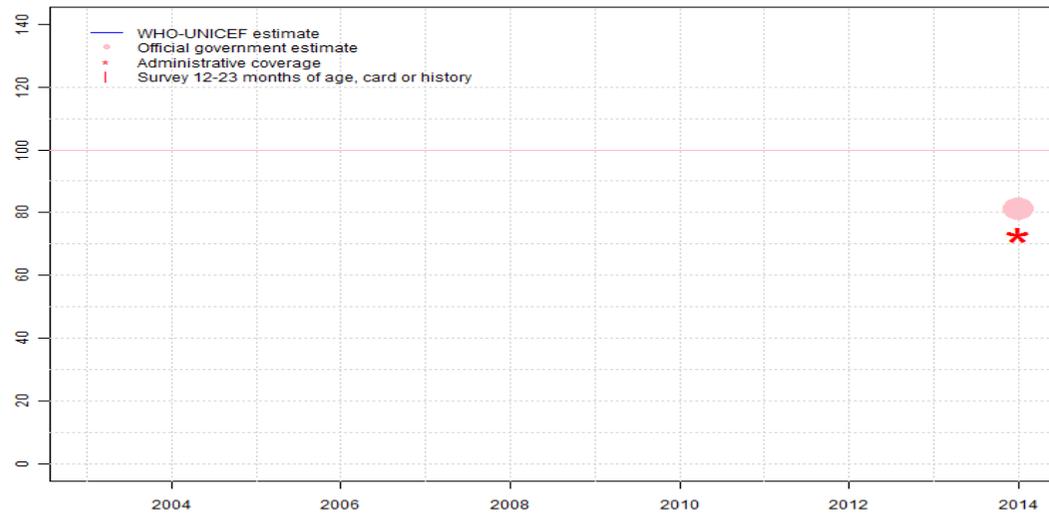
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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.

# Senegal - PcV3

SEN - PcV3



## Description:

2014: Estimate based on coverage reported by national government. Introduced in national schedule in November 2013, reporting started in 2014. GoC=Assigned by working group. Introduction period.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	81										
Estimate GoC	NA	●										
Official	NA	81										
Administrative	NA	73										
Survey	NA											

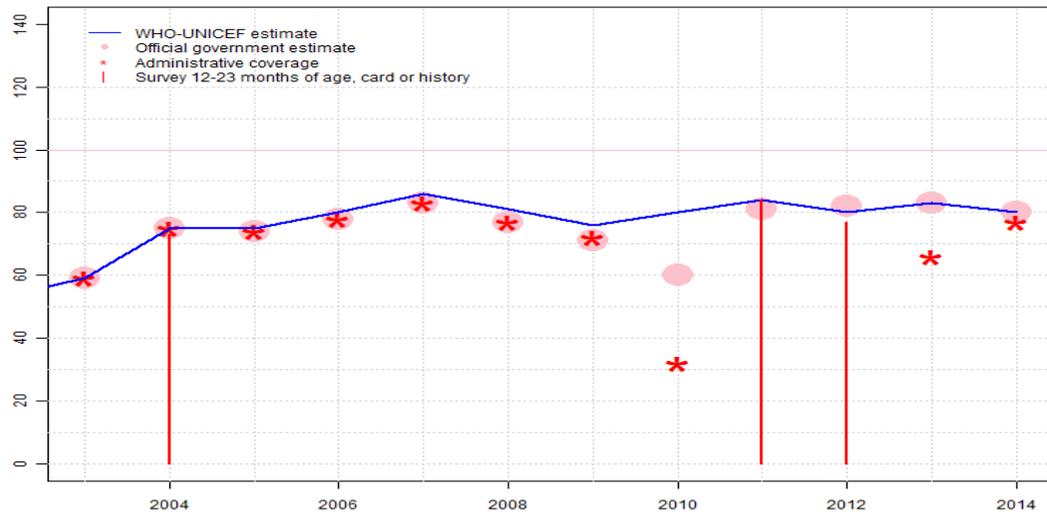
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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.

# Senegal - YFV

SEN - YFV



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	59	75	75	80	86	81	76	80	84	80	83	80
Estimate GoC	••	•••	•	••	••	••	••	•	•	••	•	•••
Official	59	75	74	78	83	77	71	60	81	82	83	80
Administrative	59	75	74	78	83	77	72	32	NA	NA	66	77
Survey	NA	73	NA	NA	NA	NA	NA	NA	84	77	NA	NA

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

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

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

## Description:

- 2003: Estimate based on coverage reported by national government. GoC=R+ D+
- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 73 percent based on 1 survey(s). GoC=R+ S+ D+
- 2005: Reported data calibrated to 2004 and 2011 levels. Estimate challenged by: D-
- 2006: Reported data calibrated to 2004 and 2011 levels. GoC=S+ D+
- 2007: Reported data calibrated to 2004 and 2011 levels. GoC=D+
- 2008: Reported data calibrated to 2004 and 2011 levels. GoC=D+
- 2009: Reported data calibrated to 2004 and 2011 levels. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=S+ D+
- 2010: Reported data calibrated to 2004 and 2011 levels. Reported data excluded. Decline in reported coverage from 71 percent to 60 percent with increase to 81 percent. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: D-
- 2011: Estimates are based on final 2011 DHS results. Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Estimate challenged by: R-
- 2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 77 percent based on 1 survey(s). Reported data excluded. Nationally reported data based on preliminary 2011 DHS results. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. GoC=S+
- 2013: Estimate based on coverage reported by national government. Between 2009 and 2012 health facilities did not report service statistics. In 2013 reporting recommenced and reached seventy-six percent completeness. Official government estimates are based on 2013 survey results. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. GoC=R+ S+ D+

# Senegal - survey details

## 2013 Sénégal Enquête Démographique et de Santé Continue 2014

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	95	12-23 m	1211	69
DTP1	Card or History	96	12-23 m	1211	69
DTP3	Card or History	89	12-23 m	1211	69
HepB1	Card or History	96	12-23 m	1211	69
HepB3	Card or History	89	12-23 m	1211	69
Hib1	Card or History	96	12-23 m	1211	69
Hib3	Card or History	89	12-23 m	1211	69
MCV1	Card or History	80	12-23 m	1211	69
Pol1	Card or History	96	12-23 m	1211	69
Pol3	Card or History	84	12-23 m	1211	69

## 2012 Sénégal Enquête Démographique et de Santé Continue, 2012-2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	96	12-23 m	1230	71
DTP1	Card or History	96	12-23 m	1230	71
DTP3	Card or History	88	12-23 m	1230	71
HepB1	Card or History	96	12-23 m	1230	71
HepB3	Card or History	88	12-23 m	1230	71
Hib1	Card or History	96	12-23 m	1230	71
Hib3	Card or History	88	12-23 m	1230	71
MCV1	Card or History	78	12-23 m	1230	71
Pol1	Card or History	96	12-23 m	1230	71
Pol3	Card or History	83	12-23 m	1230	71
YFV	Card or History	77	12-23 m	1230	71

## 2011 Enquête Nationale de Couvertures Vaccinales du PEV, Sénégal, 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	78	12-23 m	-	81
BCG	Card or History	97	12-23 m	16755	81

BCG	Card or History or Sca	93	12-23 m	-	81
DTP1	Card	78	12-23 m	-	81
DTP1	Card or History	97	12-23 m	16755	81
DTP3	Card	73	12-23 m	-	81
DTP3	Card or History	92	12-23 m	16755	81
HepB1	Card	78	12-23 m	-	81
HepB1	Card or History	97	12-23 m	16755	81
HepB3	Card	73	12-23 m	-	81
HepB3	Card or History	92	12-23 m	16755	81
Hib1	Card	78	12-23 m	-	81
Hib1	Card or History	97	12-23 m	16755	81
Hib3	Card	73	12-23 m	-	81
Hib3	Card or History	92	12-23 m	16755	81
MCV1	Card	66	12-23 m	-	81
MCV1	Card or History	84	12-23 m	16755	81
Pol1	Card	65	12-23 m	-	81
Pol1	Card or History	94	12-23 m	16755	81
Pol3	Card	60	12-23 m	-	81
Pol3	Card or History	89	12-23 m	16755	81
YFV	Card	66	12-23 m	-	81
YFV	Card or History	84	12-23 m	16755	81

## 2009 Revue externe du Programme Elargi de Vaccination du Senegal 2010

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	92	12-23 m	13650	76
BCG	Card or History	95	12-23 m	13650	76
DTP1	Card	72	12-23 m	13650	76
DTP1	Card or History	94	12-23 m	13650	76
DTP3	Card	51	12-23 m	13650	76
DTP3	Card or History	74	12-23 m	13650	76
HepB1	Card	72	12-23 m	13650	76
HepB1	Card or History	94	12-23 m	13650	76
HepB3	Card	51	12-23 m	13650	76
HepB3	Card or History	74	12-23 m	13650	76
Hib1	Card	72	12-23 m	13650	76
Hib1	Card or History	94	12-23 m	13650	76
Hib3	Card	51	12-23 m	13650	76

# Senegal - survey details

Hib3	Card or History	74	12-23 m	13650	76
MCV1	Card	47	12-23 m	13650	76
MCV1	Card or History	79	12-23 m	13650	76

## 2009 Sénégal Enquête Démographique et de Santé à Indicateurs Multiples 2010-2011

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	93	12-23 m	2199	66
BCG	Card	64	12-23 m	1460	66
BCG	Card or History	95	12-23 m	2199	66
BCG	History	30	12-23 m	738	66
DTP1	C or H <12 months	93	12-23 m	2199	66
DTP1	Card	64	12-23 m	1460	66
DTP1	Card or History	94	12-23 m	2199	66
DTP1	History	29	12-23 m	738	66
DTP3	C or H <12 months	80	12-23 m	2199	66
DTP3	Card	60	12-23 m	1460	66
DTP3	Card or History	83	12-23 m	2199	66
DTP3	History	22	12-23 m	738	66
HepB1	C or H <12 months	93	12-23 m	2199	66
HepB1	Card	64	12-23 m	1460	66
HepB1	Card or History	94	12-23 m	2199	66
HepB1	History	29	12-23 m	738	66
HepB3	C or H <12 months	80	12-23 m	2199	66
HepB3	Card	60	12-23 m	1460	66
HepB3	Card or History	83	12-23 m	2199	66
HepB3	History	22	12-23 m	738	66
Hib1	C or H <12 months	93	12-23 m	2199	66
Hib1	Card	64	12-23 m	1460	66
Hib1	Card or History	94	12-23 m	2199	66
Hib1	History	29	12-23 m	738	66
Hib3	C or H <12 months	80	12-23 m	2199	66
Hib3	Card	60	12-23 m	1460	66
Hib3	Card or History	83	12-23 m	2199	66
Hib3	History	22	12-23 m	738	66
MCV1	C or H <12 months	71	12-23 m	2199	66
MCV1	Card	56	12-23 m	1460	66
MCV1	Card or History	82	12-23 m	2199	66

MCV1	History	26	12-23 m	738	66
Pol1	C or H <12 months	94	12-23 m	2199	66
Pol1	Card	65	12-23 m	1460	66
Pol1	Card or History	95	12-23 m	2199	66
Pol1	History	30	12-23 m	738	66
Pol3	C or H <12 months	70	12-23 m	2199	66
Pol3	Card	60	12-23 m	1460	66
Pol3	Card or History	73	12-23 m	2199	66
Pol3	History	12	12-23 m	738	66

## 2004 Enquête Démographique et de Santé, Sénégal 2005

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	91	12-23 m	2040	70
BCG	Card	66	12-23 m	2040	70
BCG	Card or History	92	12-23 m	2040	70
BCG	History	25	12-23 m	2040	70
DTP1	C or H <12 months	92	12-23 m	2040	70
DTP1	Card	68	12-23 m	2040	70
DTP1	Card or History	93	12-23 m	2040	70
DTP1	History	25	12-23 m	2040	70
DTP3	C or H <12 months	74	12-23 m	2040	70
DTP3	Card	61	12-23 m	2040	70
DTP3	Card or History	78	12-23 m	2040	70
DTP3	History	17	12-23 m	2040	70
MCV1	C or H <12 months	61	12-23 m	2040	70
MCV1	Card	53	12-23 m	2040	70
MCV1	Card or History	74	12-23 m	2040	70
MCV1	History	20	12-23 m	2040	70
Pol1	C or H <12 months	93	12-23 m	2040	70
Pol1	Card	69	12-23 m	2040	70
Pol1	Card or History	94	12-23 m	2040	70
Pol1	History	25	12-23 m	2040	70
Pol3	C or H <12 months	69	12-23 m	2040	70
Pol3	Card	61	12-23 m	2040	70
Pol3	Card or History	73	12-23 m	2040	70
Pol3	History	12	12-23 m	2040	70
YFV	C or H <12 months	62	12-23 m	2040	70
YFV	Card	54	12-23 m	2040	70

# Senegal - survey details

YFV	Card or History	73	12-23 m	2040	70
YFV	History	19	12-23 m	2040	70

YFV	Card or History	50	12-23 m	2100	81
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1999 Rapport final revue externe PEV du Senegal, Jan 2000

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	89	12-23 m	2100	81
BCG	Card	88	12-23 m	2100	81
BCG	Card <12 months	87	12-23 m	2100	81
BCG	Card or History	90	12-23 m	2100	81
DTP1	C or H <12 months	79	12-23 m	2100	81
DTP1	Card	71	12-23 m	2100	81
DTP1	Card <12 months	68	12-23 m	2100	81
DTP1	Card or History	82	12-23 m	2100	81
DTP3	C or H <12 months	52	12-23 m	2100	81
DTP3	Card	52	12-23 m	2100	81
DTP3	Card <12 months	45	12-23 m	2100	81
DTP3	Card or History	60	12-23 m	2100	81
MCV1	C or H <12 months	48	12-23 m	2100	81
MCV1	Card	53	12-23 m	2100	81
MCV1	Card <12 months	42	12-23 m	2100	81
MCV1	Card or History	60	12-23 m	2100	81
Pol1	C or H <12 months	73	12-23 m	2100	81
Pol1	Card	66	12-23 m	2100	81
Pol1	Card <12 months	64	12-23 m	2100	81
Pol1	Card or History	76	12-23 m	2100	81
Pol3	C or H <12 months	49	12-23 m	2100	81
Pol3	Card	50	12-23 m	2100	81
Pol3	Card <12 months	43	12-23 m	2100	81
Pol3	Card or History	56	12-23 m	2100	81
YFV	Card	43	12-23 m	2100	81
YFV	Card <12 months	34	12-23 m	2100	81

1998 Sénégal, Enquête Sénégalaise sur les Indicateurs de Santé (ESIS) 1999, 2000

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	82	12-23 m	2137	59
BCG	Card	59	12-23 m	2137	59
BCG	Card or History	88	12-23 m	2137	59
BCG	History	29	12-23 m	2137	59
DTP1	C or H <12 months	69	12-23 m	2137	59
DTP1	Card	55	12-23 m	2137	59
DTP1	Card or History	73	12-23 m	2137	59
DTP1	History	18	12-23 m	2137	59
DTP3	C or H <12 months	43	12-23 m	2137	59
DTP3	Card	42	12-23 m	2137	59
DTP3	Card or History	50	12-23 m	2137	59
DTP3	History	8	12-23 m	2137	59
MCV1	C or H <12 months	46	12-23 m	2137	59
MCV1	Card	42	12-23 m	2137	59
MCV1	Card or History	61	12-23 m	2137	59
MCV1	History	20	12-23 m	2137	59
Pol1	C or H <12 months	80	12-23 m	2137	59
Pol1	Card	57	12-23 m	2137	59
Pol1	Card or History	86	12-23 m	2137	59
Pol1	History	28	12-23 m	2137	59
Pol3	C or H <12 months	50	12-23 m	2137	59
Pol3	Card	43	12-23 m	2137	59
Pol3	Card or History	58	12-23 m	2137	59
Pol3	History	15	12-23 m	2137	59

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)

## Senegal

### 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	77
2004	78
2005	80
2006	86
2007	85
2008	88
2009	88
2010	88
2011	88
2012	91
2013	91
2014	91

<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.