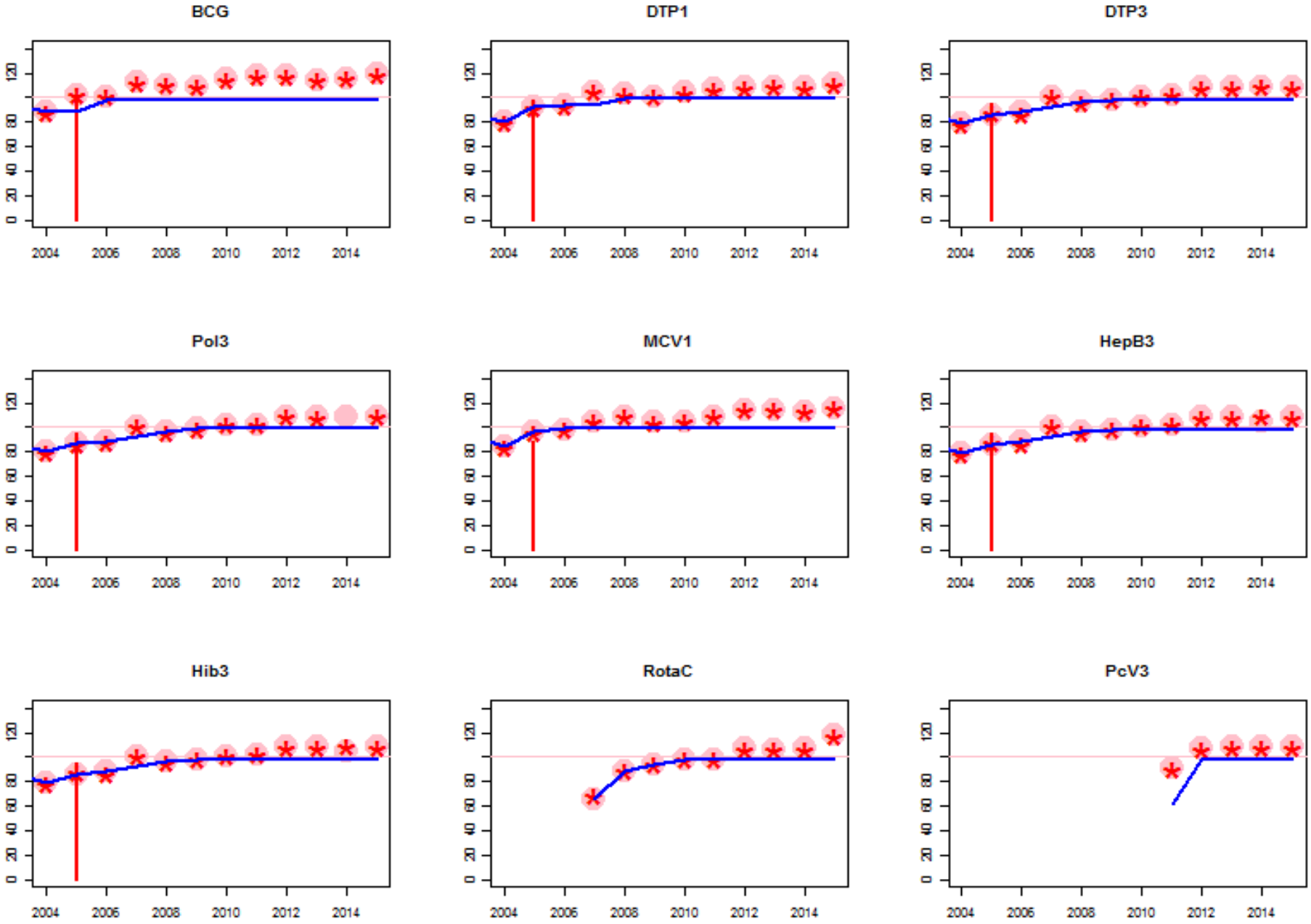
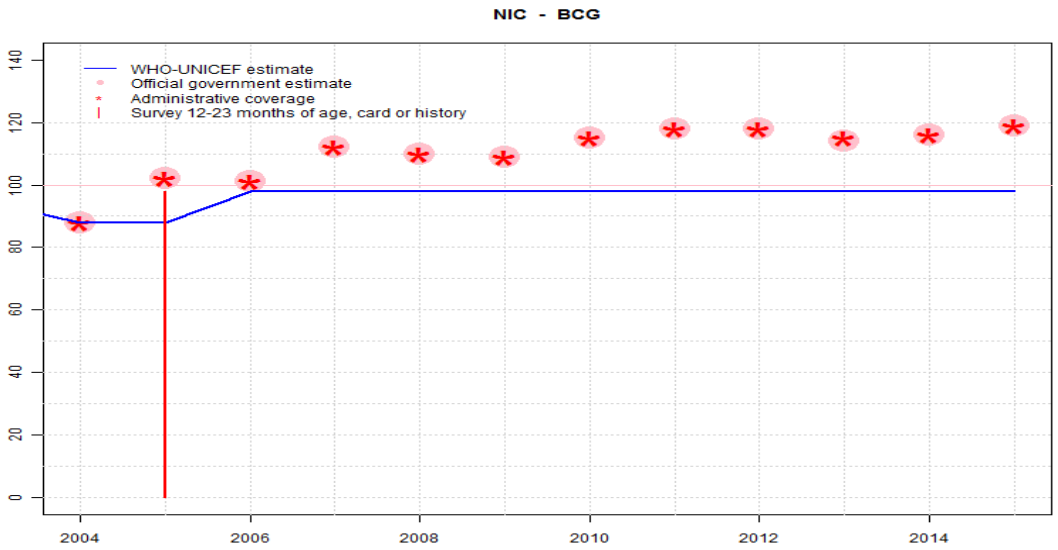

BCG
DTP1
DTP3
Pol3
MCV1
HepB3
Hib3
RotaC
PcV3
0
20
40
60
80
120
2004
2006
2008
2010
2012
2014

Nicaragua - BCG



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	88	88	98	98	98	98	98	98	98	98	98	98
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	88	102	101	112	110	109	115	118	118	114	116	119
Administrative	88	102	101	112	110	109	115	118	118	115	116	119
Survey	NA	98	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: 2015 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 coverage reported by national government. . Estimate challenged by: D-

2005: Estimate based on extrapolation from data reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). Reported data excluded. 102 percent greater than 100 percent. Estimate challenged by: D-

2006: Survey confirms high levels of coverage. Reported data excluded. 101 percent greater than 100 percent. Estimate challenged by: D-R-

2007: Reported data calibrated to 2006 levels. Reported data excluded. 112 percent greater than 100 percent. Estimate challenged by: D-

2008: Reported data calibrated to 2006 levels. Reported data excluded. 110 percent greater than 100 percent. Estimate challenged by: D-

2009: Reported data calibrated to 2006 levels. Reported data excluded. 109 percent greater than 100 percent. Estimate challenged by: D-

2010: Reported data calibrated to 2006 levels. Reported data excluded. 115 percent greater than 100 percent. Preliminary results from the 2011-12 ENDESA survey support coverage greater than 90 percent. Estimate challenged by: D-

2011: Reported data calibrated to 2006 levels. Reported data excluded. 118 percent greater than 100 percent. Estimate challenged by: D-

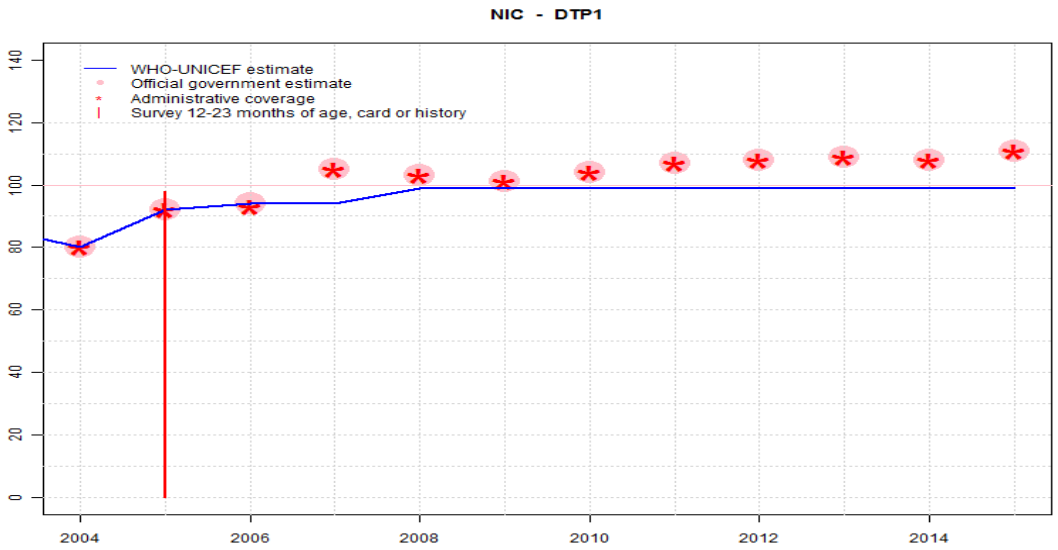
2012: Reported data calibrated to 2006 levels. Reported data excluded. 118 percent greater than 100 percent. Estimate challenged by: D-

2013: Reported data calibrated to 2006 levels. Reported data excluded. 114 percent greater than 100 percent. Estimate challenged by: D-

2014: Reported data calibrated to 2006 levels. Reported data excluded. 116 percent greater than 100 percent. Estimate challenged by: D-

2015: Reported data calibrated to 2006 levels. Reported data excluded. 119 percent greater than 100 percent. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. WHO and UNICEF are aware of the conduct of a survey and await the final results. Estimate challenged by: D-

Nicaragua - DTP1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	80	92	94	94	99	99	99	99	99	99	99	99
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	80	92	94	105	103	101	104	107	108	109	108	111
Administrative	80	92	93	105	103	101	104	107	108	109	108	111
Survey	NA	98	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: 2015 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 coverage reported by national government. Estimate challenged by: D-

2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). Estimate challenged by: D-

2006: Estimate based on coverage reported by national government. Estimate challenged by: D-

2007: Estimate based on extrapolation from data reported by national government. Reported data excluded. 105 percent greater than 100 percent. Estimate challenged by: D-

2008: DTP1 coverage estimated based on DTP3 coverage of 97. Reported data excluded. 103 percent greater than 100 percent. Estimate challenged by: D-R-

2009: DTP1 coverage estimated based on DTP3 coverage of 98. Reported data excluded. 101 percent greater than 100 percent. Estimate challenged by: D-R-

2010: DTP1 coverage estimated based on DTP3 coverage of 98. Reported data excluded. 104 percent greater than 100 percent. Estimate challenged by: D-R-

2011: DTP1 coverage estimated based on DTP3 coverage of 98. Reported data excluded. 107 percent greater than 100 percent. Estimate challenged by: D-R-

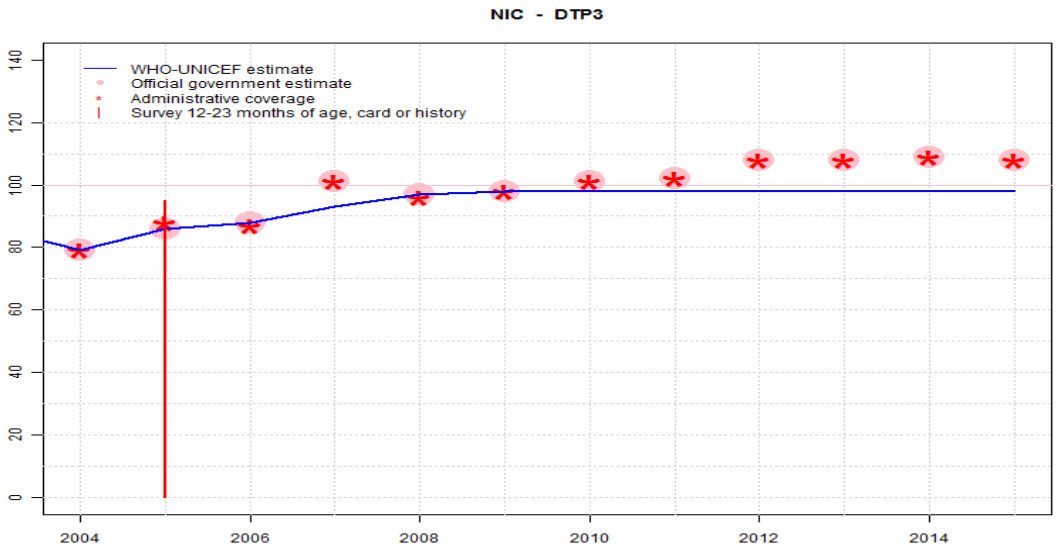
2012: DTP1 coverage estimated based on DTP3 coverage of 98. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: D-R-

2013: DTP1 coverage estimated based on DTP3 coverage of 98. Reported data excluded. 109 percent greater than 100 percent. Estimate challenged by: D-R-

2014: DTP1 coverage estimated based on DTP3 coverage of 98. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: D-R-

2015: DTP1 coverage estimated based on DTP3 coverage of 98. Reported data excluded. 111 percent greater than 100 percent. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. WHO and UNICEF are aware of the conduct of a survey and await the final results. Estimate challenged by: D-R-

Nicaragua - DTP3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	79	86	88	93	97	98	98	98	98	98	98	98
Estimate GoC	•	•	•	•	••	•	•	•	•	•	•	•
Official	79	86	88	101	97	98	101	102	108	108	109	108
Administrative	79	88	87	101	96	98	101	102	108	108	109	108
Survey	NA	95	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: 2015 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 coverage reported by national government. Estimate challenged by: D-

2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Estimate challenged by: D-

2006: Estimate based on coverage reported by national government. Estimate challenged by: D-

2007: Estimate based on interpolation between data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Estimate challenged by: D-

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

2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

2010: Estimate based on extrapolation from data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Preliminary results from the 2011-12 ENDESA survey support coverage greater than 90 percent. Estimate challenged by: D-

2011: Estimate based on extrapolation from data reported by national government. Reported data excluded. 102 percent greater than 100 percent. Estimate challenged by: D-

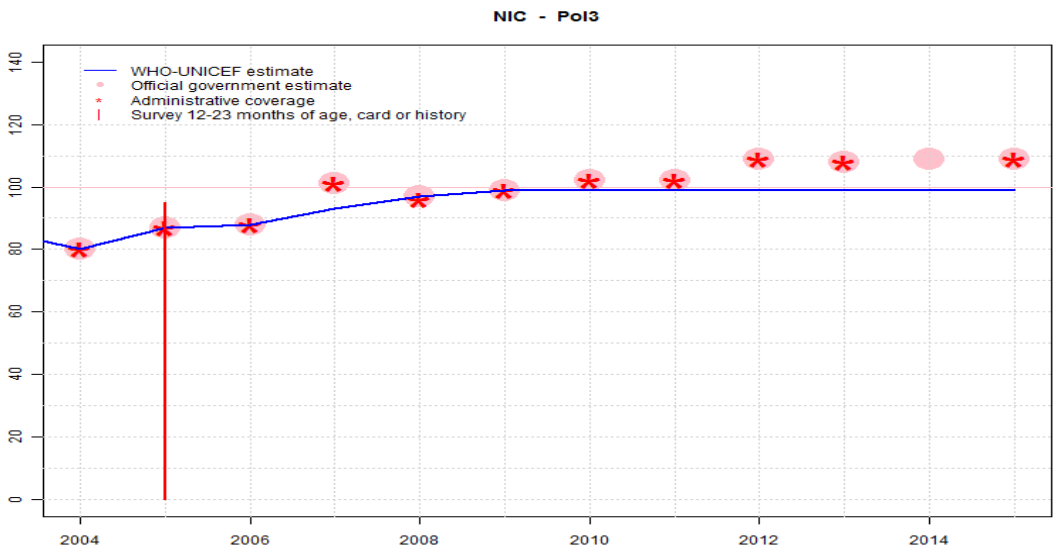
2012: Estimate based on extrapolation from data reported by national government. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: D-

2013: Estimate based on extrapolation from data reported by national government. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: D-

2014: Estimate based on extrapolation from data reported by national government. Reported data excluded. 109 percent greater than 100 percent. Estimate challenged by: D-

2015: Estimate based on extrapolation from data reported by national government. Reported data excluded. 108 percent greater than 100 percent. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. WHO and UNICEF are aware of the conduct of a survey and await the final results. Estimate challenged by: D-

Nicaragua - Pol3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	80	87	88	93	97	99	99	99	99	99	99	99
Estimate GoC	•	•	•	•	••	••	•	•	•	•	•	•
Official	80	87	88	101	97	99	102	102	109	108	109	109
Administrative	80	87	88	101	96	99	102	102	109	108	NA	109
Survey	NA	95	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: 2015 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 coverage reported by national government. Estimate challenged by: D-

2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Estimate challenged by: D-

2006: Estimate based on coverage reported by national government. Estimate challenged by: D-

2007: Estimate based on interpolation between data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Estimate challenged by: D-

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

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

2010: Estimate based on extrapolation from data reported by national government. Reported data excluded. 102 percent greater than 100 percent. Preliminary results from the 2011-12 ENDESA survey support coverage greater than 90 percent. Estimate challenged by: D-

2011: Estimate based on extrapolation from data reported by national government. Reported data excluded. 102 percent greater than 100 percent. Estimate challenged by: D-

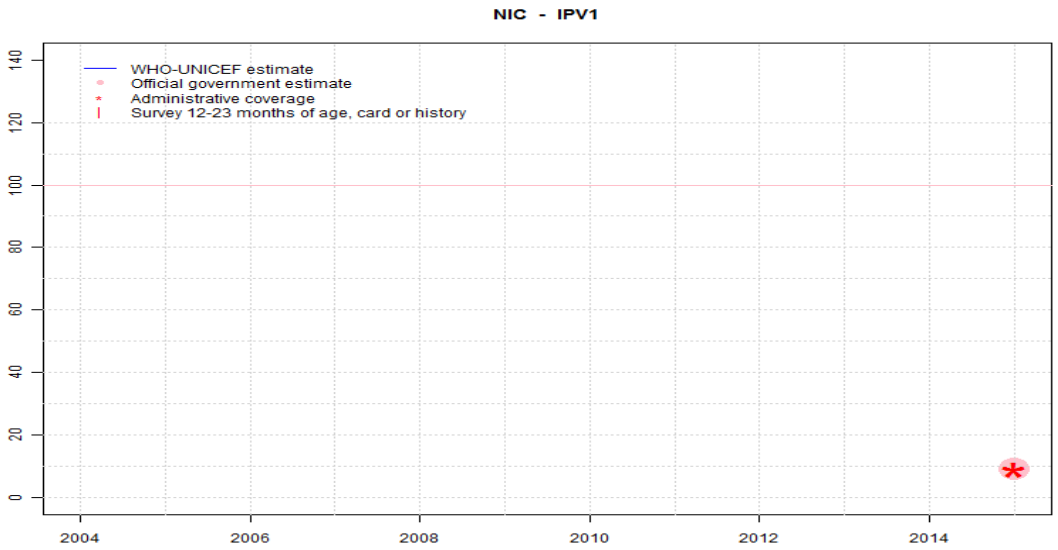
2012: Estimate based on extrapolation from data reported by national government. Reported data excluded. 109 percent greater than 100 percent. Estimate challenged by: D-

2013: Estimate based on extrapolation from data reported by national government. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: D-

2014: Estimate based on extrapolation from data reported by national government. Reported data excluded. 109 percent greater than 100 percent. GoC=No accepted empirical data

2015: Estimate based on extrapolation from data reported by national government. Reported data excluded. 109 percent greater than 100 percent. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. WHO and UNICEF are aware of the conduct of a survey and await the final results. Estimate challenged by: D-

Nicaragua - IPV1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9
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: 2015 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.

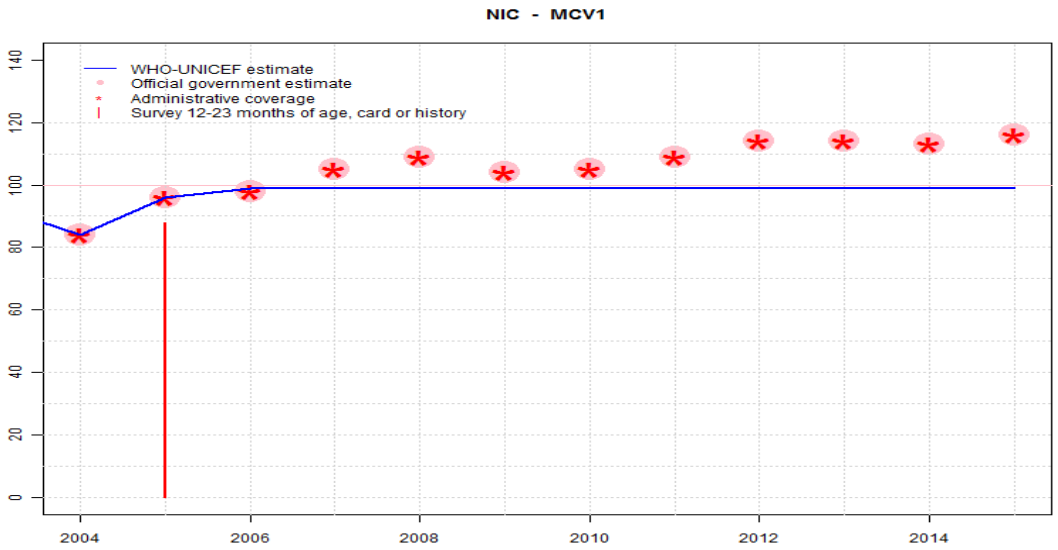
● There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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:

2015: Estimate based on coverage reported by national government. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. WHO and UNICEF are aware of the conduct of a survey and await the final results. IPV introduced during November 2015. GoC=Assigned by working group. Consistency with other vaccines.

Nicaragua - MCV1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	84	96	99	99	99	99	99	99	99	99	99	99
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	84	96	98	105	109	104	105	109	114	114	113	116
Administrative	84	96	98	105	109	104	105	109	114	114	113	116
Survey	NA	88	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: 2015 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 coverage reported by national government. Estimate challenged by: D-

2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Estimate challenged by: D-

2006: Survey results based on cohort 18-29 months of age and not representative of target population. Other estimates based on reported data. Estimate challenged by: D-R-

2007: Reported data calibrated to 2006 levels. Reported data excluded. 105 percent greater than 100 percent. Estimate challenged by: D-

2008: Reported data calibrated to 2006 levels. Reported data excluded. 109 percent greater than 100 percent. Estimate challenged by: D-

2009: Reported data calibrated to 2006 levels. Reported data excluded. 104 percent greater than 100 percent. Estimate challenged by: D-

2010: Reported data calibrated to 2006 levels. Reported data excluded. 105 percent greater than 100 percent. Preliminary results from the 2011-12 ENDESA survey support coverage greater than 85 percent. Estimate challenged by: D-

2011: Reported data calibrated to 2006 levels. Reported data excluded. 109 percent greater than 100 percent. Estimate challenged by: D-

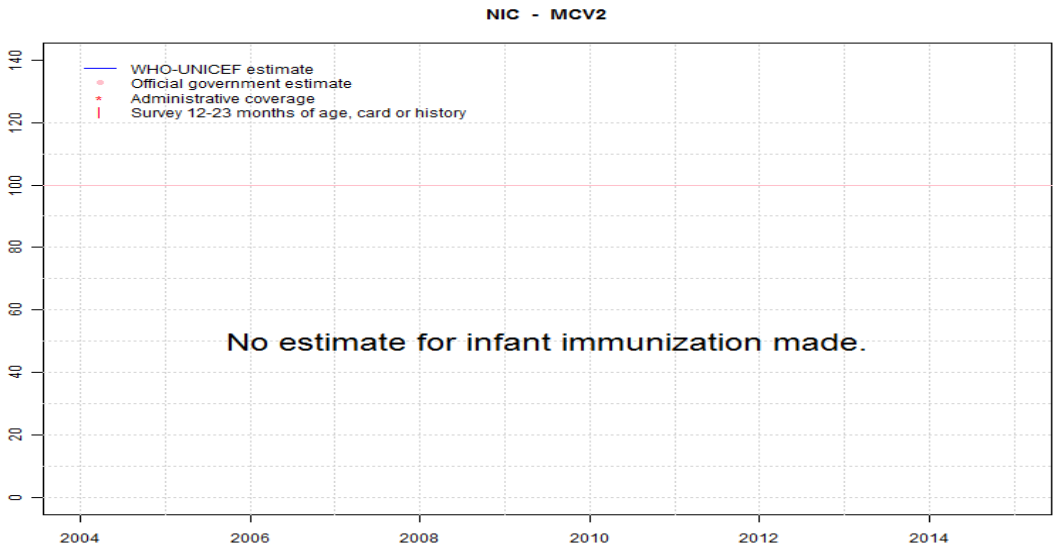
2012: Reported data calibrated to 2006 levels. Reported data excluded. 114 percent greater than 100 percent. Estimate challenged by: D-

2013: Reported data calibrated to 2006 levels. Reported data excluded. 114 percent greater than 100 percent. Estimate challenged by: D-

2014: Reported data calibrated to 2006 levels. Reported data excluded. 113 percent greater than 100 percent. Estimate challenged by: D-

2015: Reported data calibrated to 2006 levels. Reported data excluded. 116 percent greater than 100 percent. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. WHO and UNICEF are aware of the conduct of a survey and await the final results. Estimate challenged by: D-

Nicaragua - MCV2



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
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.

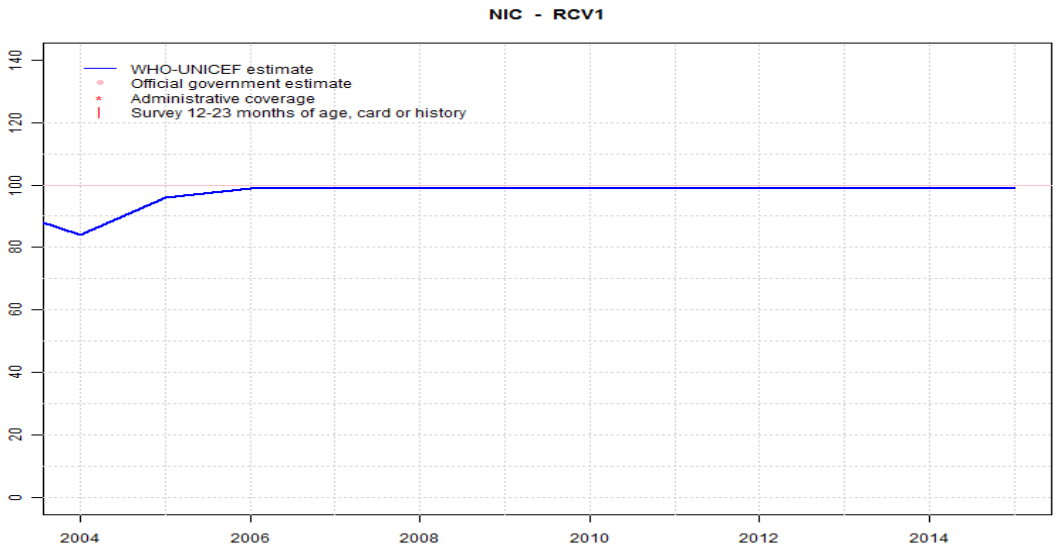
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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.

Nicaragua - RCV1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	84	96	99	99	99	99	99	99	99	99	99	99
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
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: 2015 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.

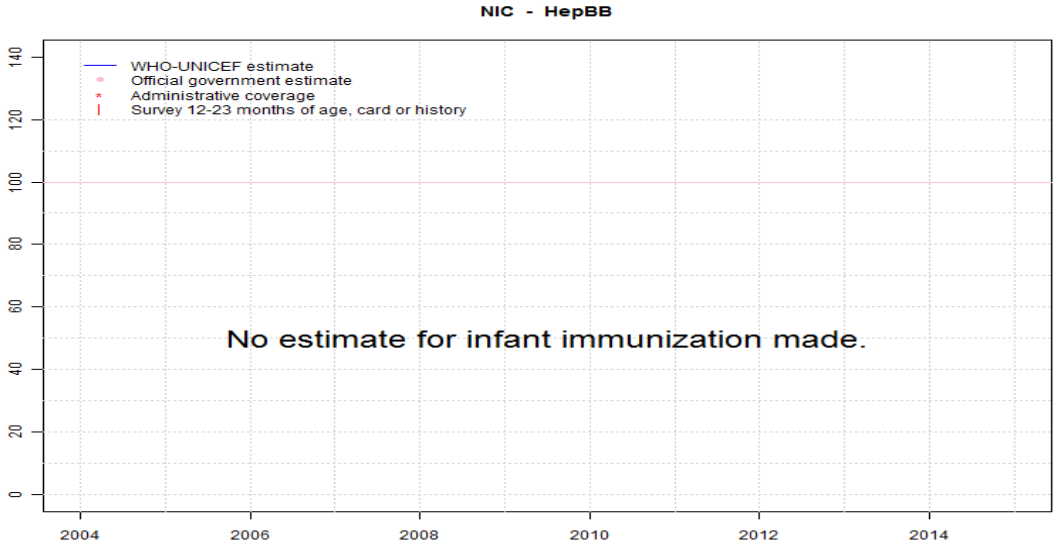
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

For this revision, coverage estimates for the first dose of rubella containing vaccine are based on WHO and UNICEF estimates of coverage of measles containing vaccine. Nationally reported coverage of rubella containing vaccine is not taken into consideration nor are they represented in the accompanying graph and data table.

2004: Estimate based on estimated MCV1. Estimate challenged by: D-
2005: Estimate based on estimated MCV1. Estimate challenged by: D-
2006: Estimate based on estimated MCV1. Estimate challenged by: D-R-
2007: Estimate based on estimated MCV1. Estimate challenged by: D-
2008: Estimate based on estimated MCV1. Estimate challenged by: D-
2009: Estimate based on estimated MCV1. Estimate challenged by: D-
2010: Estimate based on estimated MCV1. Estimate challenged by: D-
2011: Estimate based on estimated MCV1. Estimate challenged by: D-
2012: Estimate based on estimated MCV1. Estimate challenged by: D-
2013: Estimate based on estimated MCV1. Estimate challenged by: D-
2014: Estimate based on estimated MCV1. Estimate challenged by: D-
2015: Estimate based on estimated MCV1. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. WHO and UNICEF are aware of the conduct of a survey and await the final results. Estimate challenged by: D-

Nicaragua - HepBB



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
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.

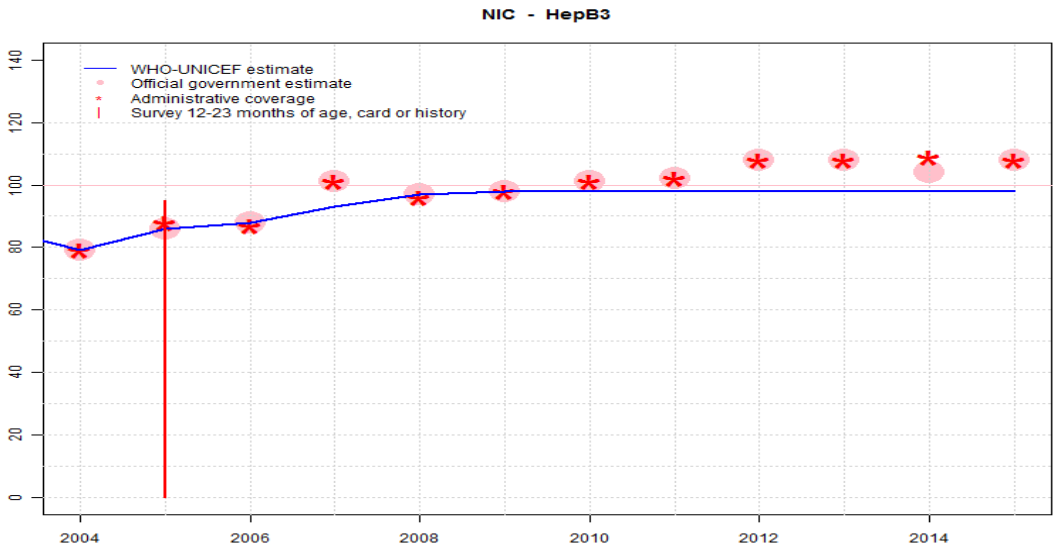
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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.

Nicaragua - HepB3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	79	86	88	93	97	98	98	98	98	98	98	98
Estimate GoC	•	•	•	•	••	•	•	•	•	•	•	•
Official	79	86	88	101	97	98	101	102	108	108	104	108
Administrative	79	88	87	101	96	98	101	102	108	108	109	108
Survey	NA	95	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: 2015 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 coverage reported by national government. Estimate challenged by: D-

2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Estimate challenged by: D-

2006: Estimate based on coverage reported by national government. Estimate challenged by: D-

2007: Estimate based on interpolation between data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Estimate challenged by: D-

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

2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

2010: Estimate based on extrapolation from data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Preliminary results from the 2011-12 ENDESA survey support coverage greater than 90 percent. Estimate challenged by: D-

2011: Estimate based on extrapolation from data reported by national government. Reported data excluded. 102 percent greater than 100 percent. Estimate challenged by: D-

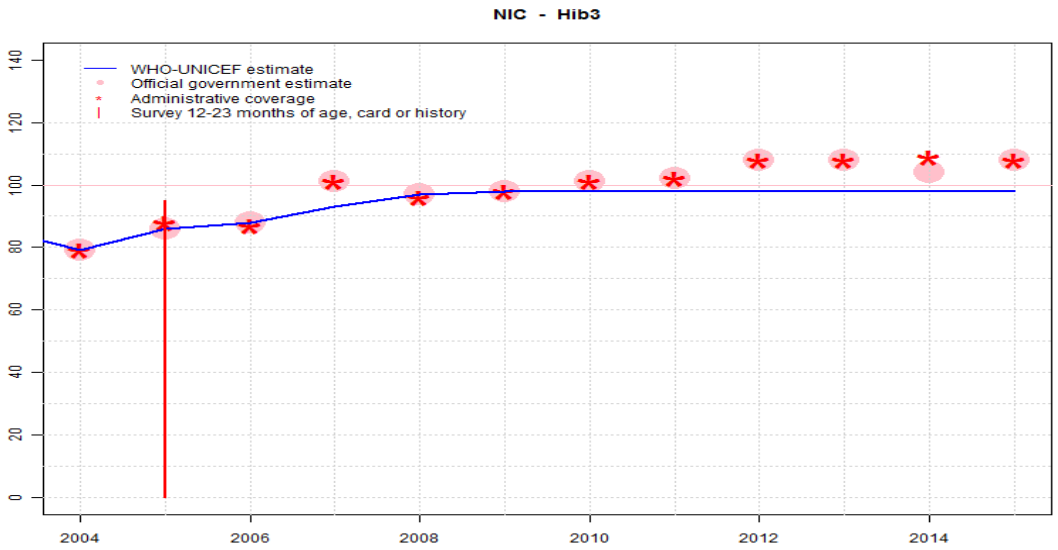
2012: Estimate based on extrapolation from data reported by national government. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: D-

2013: Estimate based on extrapolation from data reported by national government. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: D-

2014: Estimate based on extrapolation from data reported by national government. Reported data excluded. 104 percent greater than 100 percent. Estimate challenged by: D-

2015: Estimate based on extrapolation from data reported by national government. Reported data excluded. 108 percent greater than 100 percent. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. WHO and UNICEF are aware of the conduct of a survey and await the final results. Estimate challenged by: D-

Nicaragua - Hib3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	79	86	88	93	97	98	98	98	98	98	98	98
Estimate GoC	•	•	•	•	••	•	•	•	•	•	•	•
Official	79	86	88	101	97	98	101	102	108	108	104	108
Administrative	79	88	87	101	96	98	101	102	108	108	109	108
Survey	NA	95	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: 2015 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 coverage reported by national government. Estimate challenged by: D-

2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Estimate challenged by: D-

2006: Estimate based on coverage reported by national government. Estimate challenged by: D-

2007: Estimate based on interpolation between data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Estimate challenged by: D-

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

2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

2010: Estimate based on extrapolation from data reported by national government. Reported data excluded. 101 percent greater than 100 percent. Preliminary results from the 2011-12 ENDESA survey support coverage greater than 90 percent. Estimate challenged by: D-

2011: Estimate based on extrapolation from data reported by national government. Reported data excluded. 102 percent greater than 100 percent. Estimate challenged by: D-

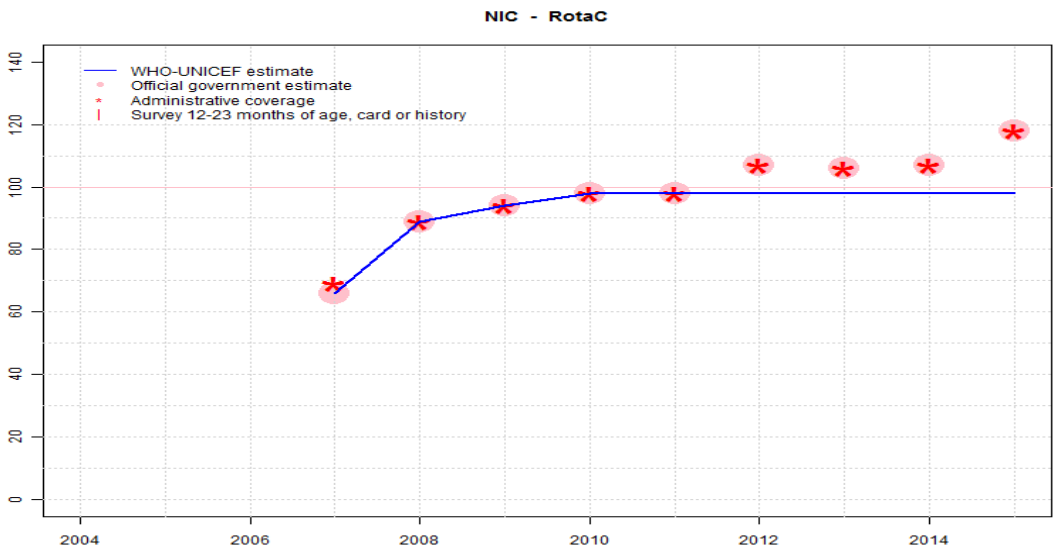
2012: Estimate based on extrapolation from data reported by national government. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: D-

2013: Estimate based on extrapolation from data reported by national government. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: D-

2014: Estimate based on extrapolation from data reported by national government. Reported data excluded. 104 percent greater than 100 percent. Estimate challenged by: D-

2015: Estimate based on extrapolation from data reported by national government. Reported data excluded. 108 percent greater than 100 percent. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. WHO and UNICEF are aware of the conduct of a survey and await the final results. Estimate challenged by: D-

Nicaragua - RotaC



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	66	89	94	98	98	98	98	98	98
Estimate GoC	NA	NA	NA	●●	●●	●	●●	●	●	●	●	●
Official	NA	NA	NA	66	89	94	98	98	107	106	107	118
Administrative	NA	NA	NA	69	89	94	98	98	107	106	107	118
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: 2015 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:

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

2008: Estimate based on coverage reported by national government. Rotavirus vaccine introduced in 2006, reporting started in 2008. GoC=R+ D+

2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

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

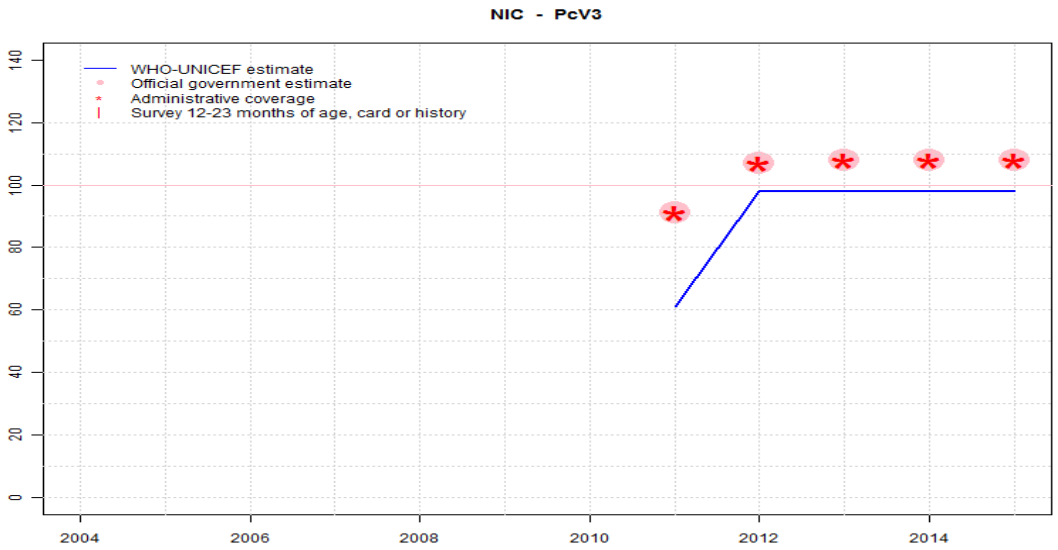
2012: Estimate based on extrapolation from data reported by national government. Reported data excluded. 107 percent greater than 100 percent. Estimate challenged by: D-

2013: Estimate based on extrapolation from data reported by national government. Reported data excluded. 106 percent greater than 100 percent. Estimate challenged by: D-

2014: Estimate based on extrapolation from data reported by national government. Reported data excluded. 107 percent greater than 100 percent. Estimate challenged by: D-

2015: Estimate based on extrapolation from data reported by national government. Reported data excluded. 118 percent greater than 100 percent. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. WHO and UNICEF are aware of the conduct of a survey and await the final results. Estimate challenged by: D-

Nicaragua - PcV3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	61	98	98	98	98
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	•	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	NA	91	107	108	108	108
Administrative	NA	NA	NA	NA	NA	NA	NA	91	107	108	108	108
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

●● Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.

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

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

Description:

2011: Eighty-four percent coverage reached in 67 percent of the population. Pneumococcal conjugate vaccine introduced in December 2010. Reporting started in 2011. Estimate challenged by: R-

2012: Estimate based on DTP3 levels. Reported data excluded. 107 percent greater than 100 percent. Estimate challenged by: D-R-

2013: Estimate based on DTP3 levels. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: D-R-

2014: Reported data calibrated to 2013 levels. Reported data excluded. 108 percent greater than 100 percent. Estimate challenged by: D-

2015: Reported data calibrated to 2013 levels. Reported data excluded. 108 percent greater than 100 percent. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. WHO and UNICEF are aware of the conduct of a survey and await the final results. Estimate challenged by: D-

Nicaragua - survey details

2005 Encuesta Nicaragüense de Demografía y Salud ENDESA 2006-2007

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	98	18-29 m	1815	80
DTP1	Card or History	98	18-29 m	1815	80
DTP3	Card or History	95	18-29 m	1815	80
HepB1	Card or History	98	18-29 m	1815	80
HepB3	Card or History	95	18-29 m	1815	80
Hib1	Card or History	98	18-29 m	1815	80
Hib3	Card or History	95	18-29 m	1815	80
MCV1	Card or History	88	18-29 m	1815	80
Pol1	Card or History	99	18-29 m	1815	80
Pol3	Card or History	95	18-29 m	1815	80

2000 Encuesta Nicaragüense de Demografía y Salud 2001, 2002

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	96	12-23 m	1370	78
DTP1	Card or History	97	12-23 m	1370	78
DTP3	Card or History	83	12-23 m	1370	78
MCV1	Card or History	86	12-23 m	1370	78
Pol1	Card or History	97	12-23 m	1370	78
Pol3	Card or History	85	12-23 m	1370	78

1997 Encuesta Nicaragüense de Demografía y Salud 1998, 1999

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	94	12-23 m	1486	66
BCG	Card or History	95	12-23 m	1486	66
BCG	History	23	12-23 m	1486	66
DTP1	C or H <12 months	93	12-23 m	1486	66
DTP1	Card or History	95	12-23 m	1486	66
DTP1	History	22	12-23 m	1486	66
DTP3	C or H <12 months	69	12-23 m	1486	66
DTP3	Card or History	80	12-23 m	1486	66
DTP3	History	14	12-23 m	1486	66
MCV1	C or H <12 months	71	12-23 m	1486	66
MCV1	Card or History	86	12-23 m	1486	66
MCV1	History	19	12-23 m	1486	66
Pol1	C or H <12 months	95	12-23 m	1486	66
Pol1	Card or History	97	12-23 m	1486	66
Pol1	History	23	12-23 m	1486	66
Pol3	C or H <12 months	73	12-23 m	1486	66
Pol3	Card or History	83	12-23 m	1486	66
Pol3	History	16	12-23 m	1486	66

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

Nicaragua
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 (%)
2004	91
2005	87
2006	85
2007	80
2008	80
2009	80
2010	81
2011	81
2012	81
2013	81
2014	81
2015	81

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