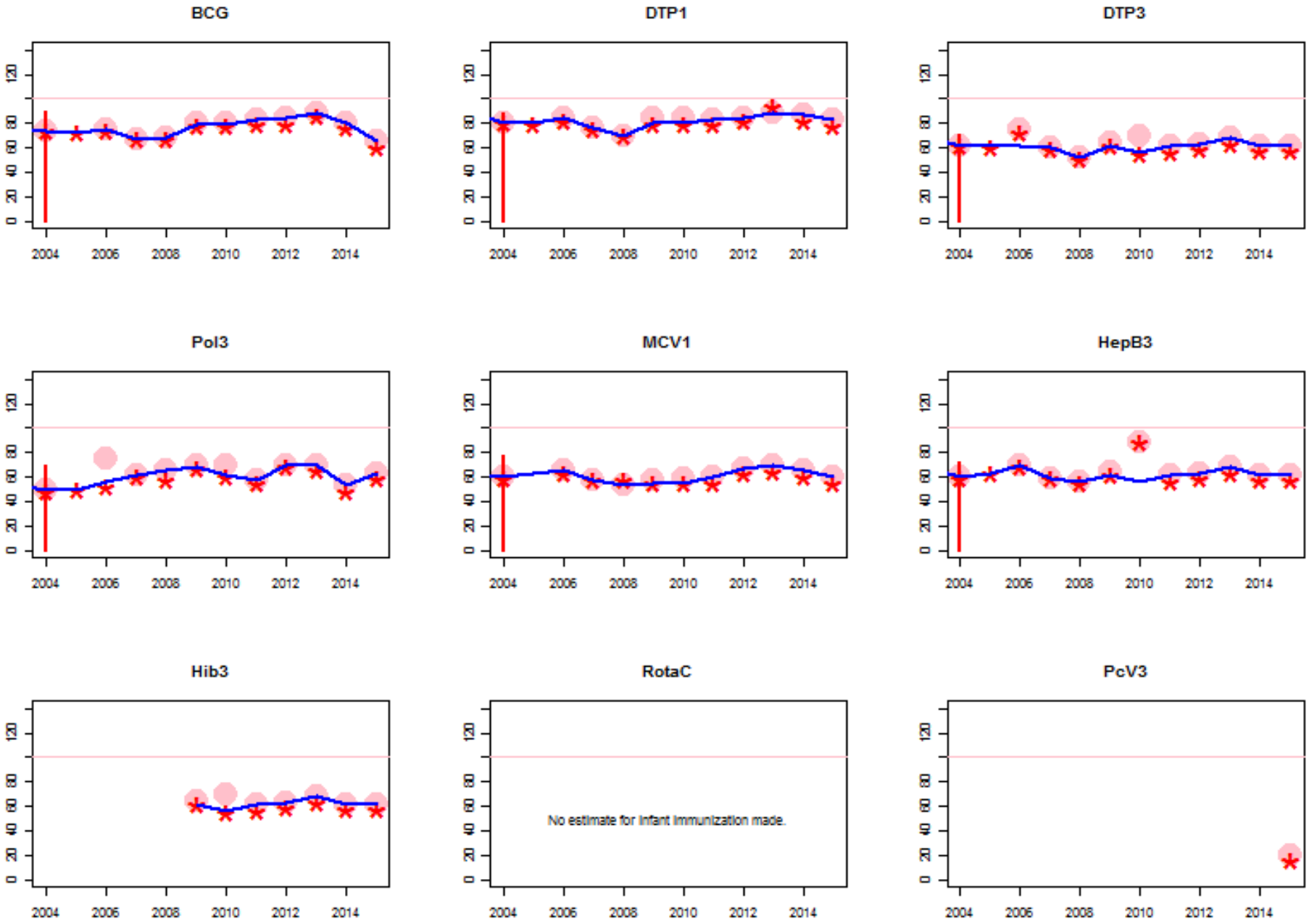
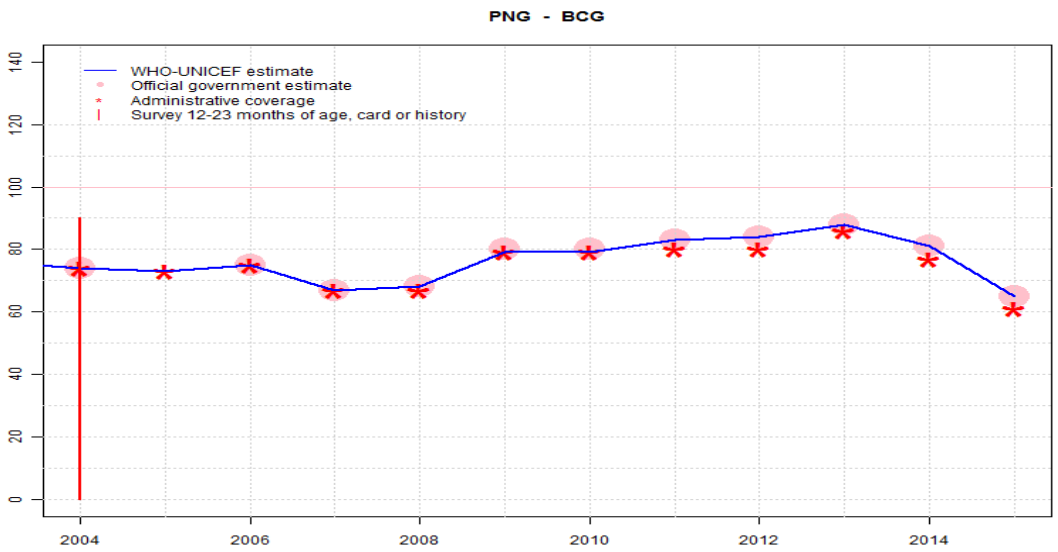

BCG
DTP1
DTP3
Pol3
MCV1
HepB3
Hib3
RotaC
No estimate for infant immunization made.
PcV3
0
20
40
60
80
120
2004
2006
2008
2010
2012
2014

Papua New Guinea - BCG



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	74	73	75	67	68	79	79	83	84	88	81	65
Estimate GoC	•	•	•	••	••	••	••	••	••	••	•	•
Official	74	NA	75	67	68	80	80	83	84	88	81	65
Administrative	74	73	75	67	67	79	79	80	80	86	77	61
Survey	90	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:

2004: Estimate based on coverage reported by national government. National Immunization Coverage Survey 2005-2006, Papua New Guinea results ignored by working group. Survey results not consistent with comparable survey data. Estimate challenged by: D-S-

2005: Estimate based on reported administrative data. Estimate challenged by: 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+ D+

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

2009: Estimate based on reported administrative data. . Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2010: Estimate based on reported administrative data. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2011: Estimate based on coverage reported by national government. Administrative coverage is adjusted for vaccinations provided in the private sector. Previous surveys have consistently indicated higher coverage than administrative coverage. GoC=R+ D+

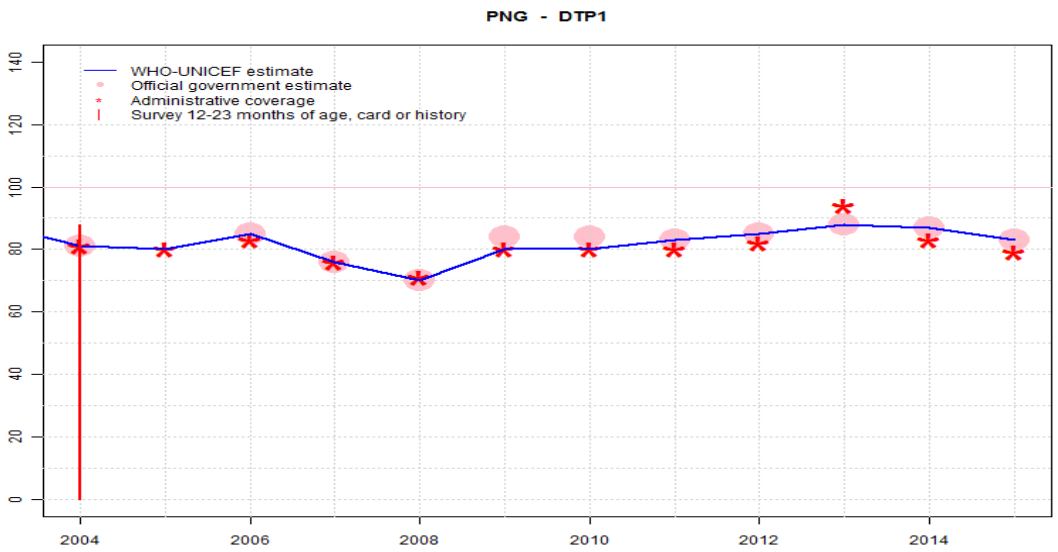
2012: Estimate based on coverage reported by national government. GoC=R+ D+

2013: Estimate based on coverage reported by national government. GoC=R+ D+

2014: Estimate based on coverage reported by national government. Programme reports two month stock-out at national level. Estimate challenged by: D-

2015: Estimate based on coverage reported by national government. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Programme reports a three month vaccine stock-out at national level. Estimate challenged by: D-

Papua New Guinea - DTP1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	81	80	85	76	70	80	80	83	85	88	87	83
Estimate GoC	•	•••	•••	••	••	••	••	••	••	••	•	•
Official	81	NA	85	76	70	84	84	83	85	88	87	83
Administrative	81	80	83	76	71	80	80	80	82	94	83	79
Survey	88	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:

2004: 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-

2005: Estimate based on reported administrative data. GoC=R+ S+ 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. Decline was the results of five months vaccine shortage. GoC=R+ D+

2009: Estimate based on reported administrative data. . Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2010: Estimate based on reported administrative data. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2011: Estimate based on coverage reported by national government. Administrative coverage is adjusted for vaccinations provided in the private sector. Previous surveys have consistently indicated higher coverage than administrative coverage. GoC=R+ D+

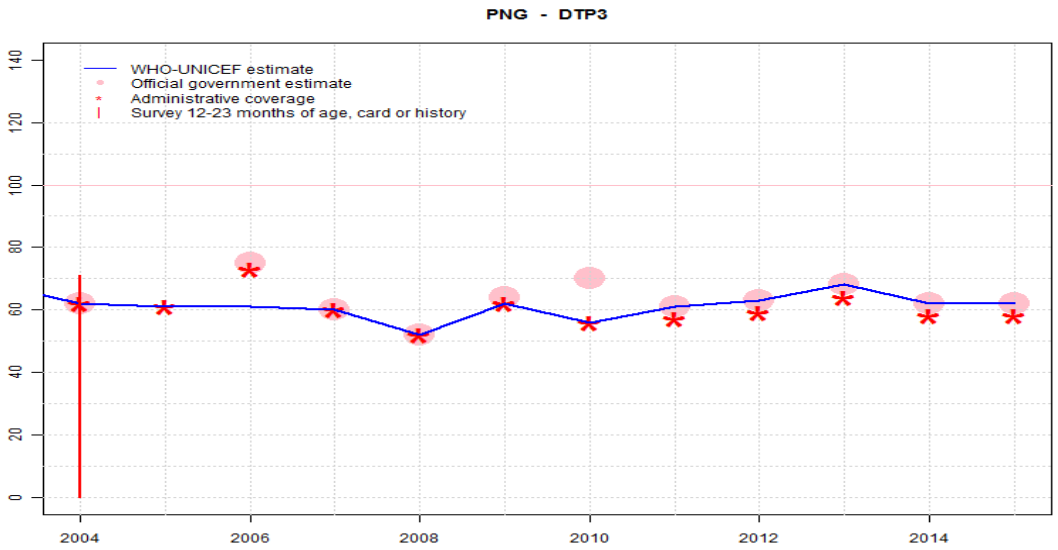
2012: Estimate based on coverage reported by national government. GoC=R+ D+

2013: Estimate based on coverage reported by national government. GoC=R+ D+

2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

2015: Estimate based on coverage reported by national government. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-

Papua New Guinea - DTP3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	62	61	61	60	52	62	56	61	63	68	62	62
Estimate GoC	•	••	••	••	••	••	••	••	••	••	••	••
Official	62	NA	75	60	52	64	70	61	63	68	62	62
Administrative	62	61	73	60	52	62	56	57	59	64	58	58
Survey	71	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:

2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 72 percent based on 1 survey(s). National Immunization Coverage Survey 2005-2006, Papua New Guinea card or history results of 71 percent modifed for recall bias to 72 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 82 percent and 3d dose card only coverage of 67 percent. Estimate challenged by: D-

2005: Estimate based on reported administrative data. GoC=R+ D+

2006: Estimate based on interpolation between data reported by national government. Reported data excluded. Unexplained increase from 61 percent to 75 percent with decrease 60 percent. GoC=D+

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

2008: Estimate based on coverage reported by national government. Decline was the results of five months vaccine shortage. GoC=R+ D+

2009: Estimate based on reported administrative data. . Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2010: Estimate based on reported administrative data. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2011: Estimate based on coverage reported by national government. Administrative coverage is adjusted for vaccinations provided in the private sector. Previous surveys have consistently indicated higher coverage than administrative coverage. GoC=R+ D+

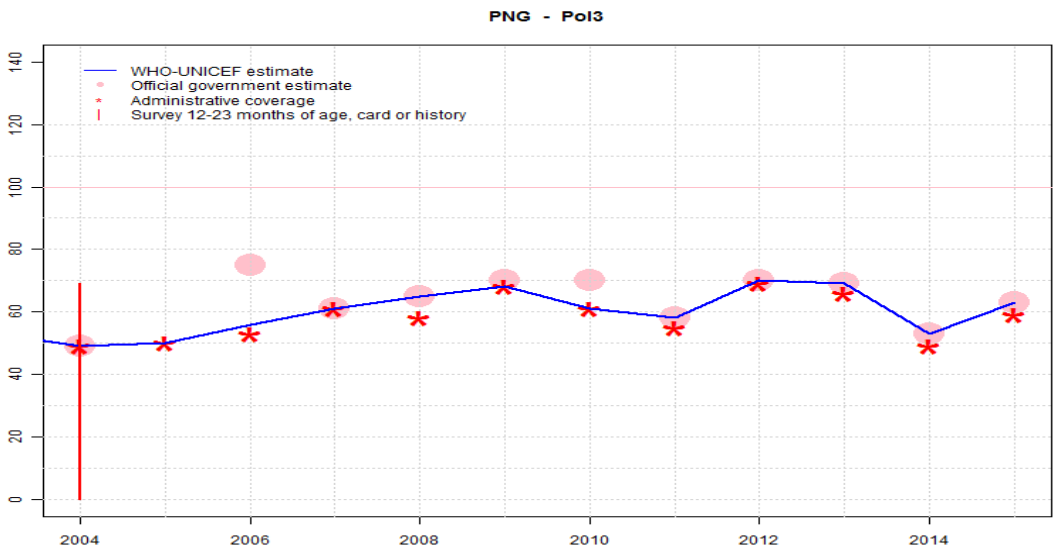
2012: Estimate based on coverage reported by national government. GoC=R+ D+

2013: Estimate based on coverage reported by national government. GoC=R+ D+

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

2015: Estimate based on coverage reported by national government. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Papua New Guinea - Pol3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	49	50	56	61	65	68	61	58	70	69	53	63
Estimate GoC	•	•	•	••	••	••	••	••	••	••	••	••
Official	49	NA	75	61	65	70	70	58	70	69	53	63
Administrative	49	50	53	61	58	68	61	55	69	66	49	59
Survey	69	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:

2004: Estimate based on coverage reported by national government. National Immunization Coverage Survey 2005-2006, Papua New Guinea results ignored by working group. Survey results likely include doses administered during campaigns. Estimate challenged by: D-S-

2005: Estimate based on reported administrative data. Estimate challenged by: S-

2006: Estimate based on interpolation between data reported by national government. Reported data excluded. Unexplained increase from 50 percent to 75 percent with decrease 61 percent. Estimate challenged by: S-

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

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

2009: Estimate based on reported administrative data. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2010: Estimate based on reported administrative data. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2011: Estimate based on coverage reported by national government. Administrative coverage is adjusted for vaccinations provided in the private sector. Previous surveys have consistently indicated higher coverage than administrative coverage. GoC=R+ D+

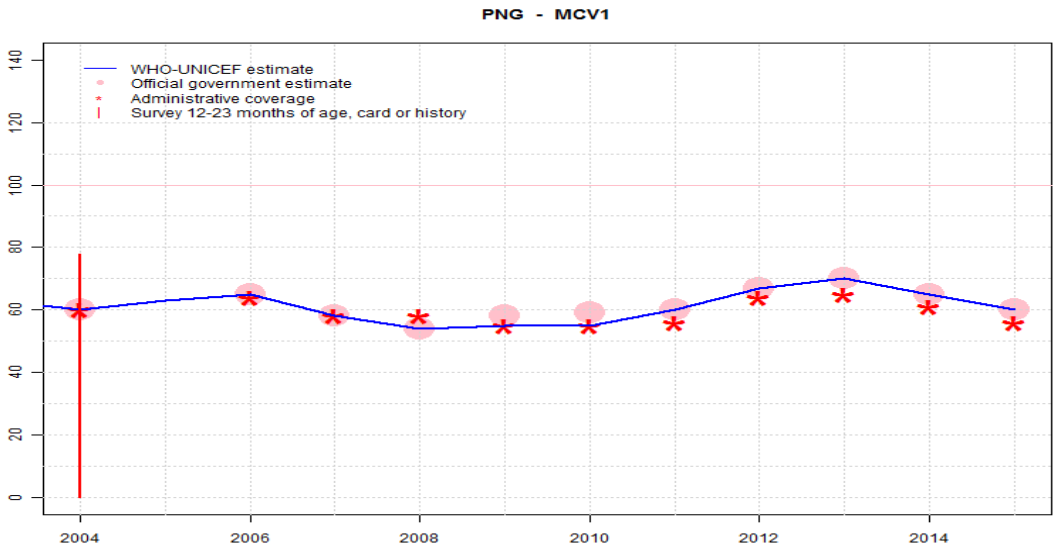
2012: Estimate based on coverage reported by national government. Rise in coverage is attributable to recovery from vaccine shortage. GoC=R+ D+

2013: Estimate based on coverage reported by national government. Programme reports three months stockout at national level. GoC=R+ D+

2014: Estimate based on coverage reported by national government. Programme reports two month stock-out at national level. GoC=R+ D+

2015: Estimate based on coverage reported by national government. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Papua New Guinea - MCV1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	60	63	65	58	54	55	55	60	67	70	65	60
Estimate GoC	•	•	•	••	••	••	••	••	••	••	••	••
Official	60	NA	65	58	54	58	59	60	67	70	65	60
Administrative	60	NA	64	58	58	55	55	56	64	65	61	56
Survey	78	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:

2004: Estimate based on coverage reported by national government. National Immunization Coverage Survey 2005-2006, Papua New Guinea results ignored by working group. Survey results likely include doses administered during campaigns. Estimate challenged by: D-S-

2005: Estimate based on interpolation between data reported by national government. Estimate challenged by: 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+ D+

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

2009: Estimate based on reported administrative data. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2010: Estimate based on reported administrative data. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2011: Estimate based on coverage reported by national government. Administrative coverage is adjusted for vaccinations provided in the private sector. Previous surveys have consistently indicated higher coverage than administrative coverage. GoC=R+ D+

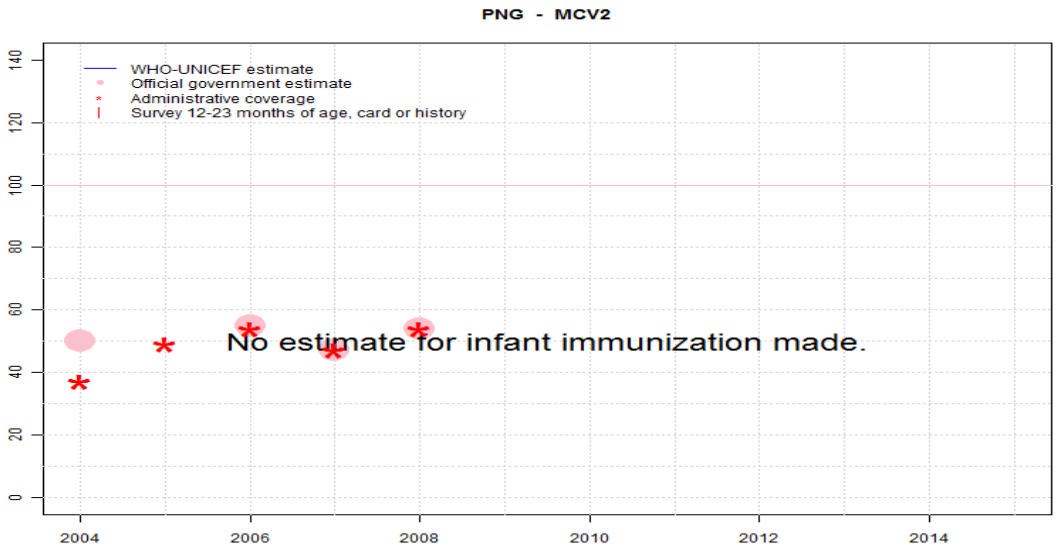
2012: Estimate based on coverage reported by national government. GoC=R+ D+

2013: Estimate based on coverage reported by national government. GoC=R+ D+

2014: Estimate based on coverage reported by national government. Programme reports two month stock-out at national level. GoC=R+ D+

2015: Estimate based on coverage reported by national government. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Papua New Guinea - 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	50	NA	55	47	54	NA	NA	NA	NA	NA	NA	NA
Administrative	37	49	54	47	54	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.

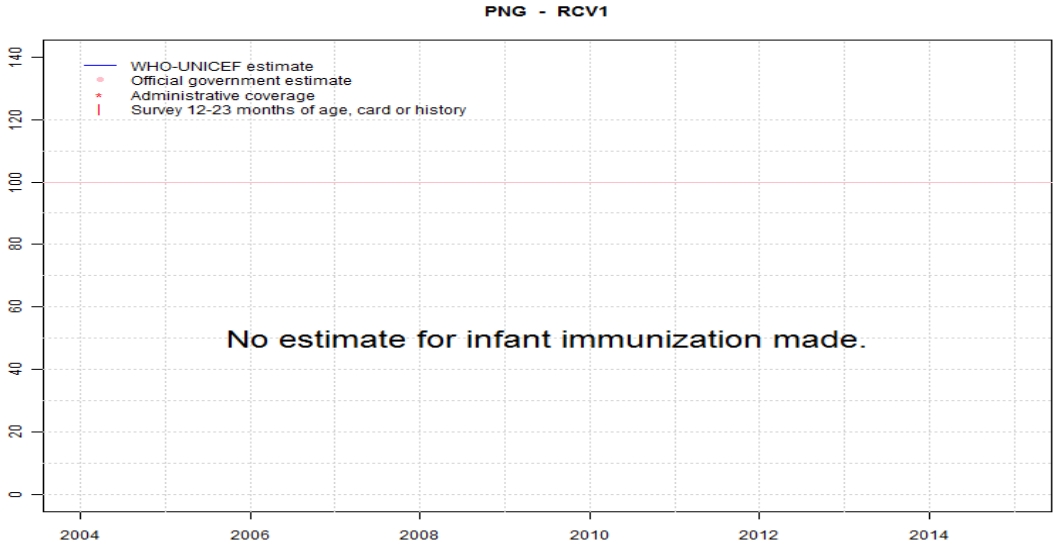
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk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

Papua New Guinea - RCV1



	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.

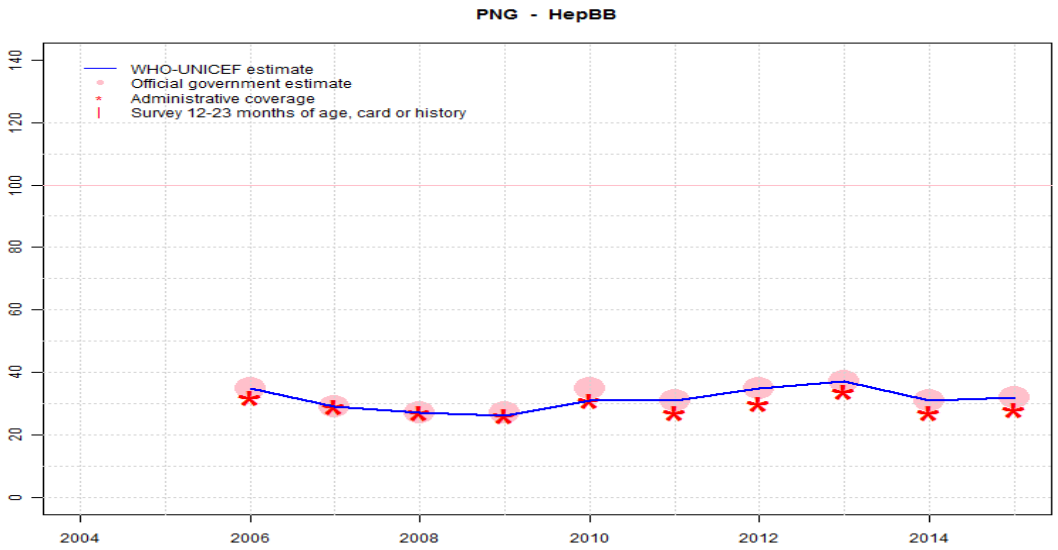
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk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

Papua New Guinea - HepBB



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	35	29	27	26	31	31	35	37	31	32
Estimate GoC	NA	NA	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Official	NA	NA	35	29	27	27	35	31	35	37	31	32
Administrative	NA	NA	32	29	27	26	31	27	30	34	27	28
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:

2006: Estimate based on coverage reported by national government. HepB birth dose estimates not available prior to 2006. GoC=R+ D+

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

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

2009: Estimate based on reported administrative estimate. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2010: Estimate based on reported administrative estimate. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2011: Estimate based on coverage reported by national government. Administrative coverage is adjusted for vaccinations provided in the private sector. Previous surveys have consistently indicated higher coverage than administrative coverage. GoC=R+ D+

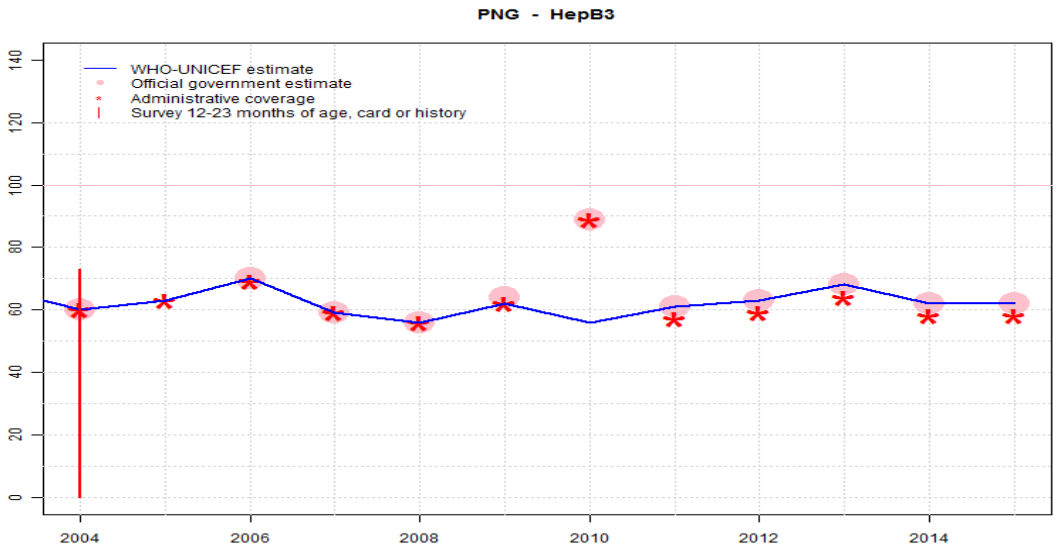
2012: Estimate based on coverage reported by national government. GoC=R+ D+

2013: Estimate based on coverage reported by national government. Programme reports two months stock out at national level. GoC=R+ D+

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

2015: Estimate based on coverage reported by national government. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Papua New Guinea - HepB3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	60	63	70	59	56	62	56	61	63	68	62	62
Estimate GoC	•	•	•	••	••	••	•	••	••	••	••	••
Official	60	NA	70	59	56	64	89	61	63	68	62	62
Administrative	60	63	69	59	56	62	89	57	59	64	58	58
Survey	73	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:

2004: Estimate based on coverage reported by national government. National Immunization Coverage Survey 2005-2006, Papua New Guinea results ignored by working group. Survey results not consistent with comparable survey data.National Immunization Coverage Survey 2005-2006, Papua New Guinea card or history results of 73 percent modifed for recall bias to 74 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 82 percent and 3d dose card only coverage of 69 percent. Estimate challenged by: D-S-

2005: Estimate based on reported administrative data. Estimate challenged by: 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+ D+

2008: Estimate based on coverage reported by national government. Decline was the results of five months vaccine shortage. GoC=R+ D+

2009: Estimate based on reported administrative data. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2010: Estimate set to DTP3 level. Vaccine presentation as DTP-HepB-Hib Reported data excluded. .Reported data excluded. Unexplained increase from 62 percent to 89 percent with decrease 61 percent. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. Estimate challenged by: D-R-

2011: Estimate based on coverage reported by national government. Administrative coverage is adjusted for vaccinations provided in the private sector. Previous surveys have consistently indicated higher coverage than administrative coverage. GoC=R+ D+

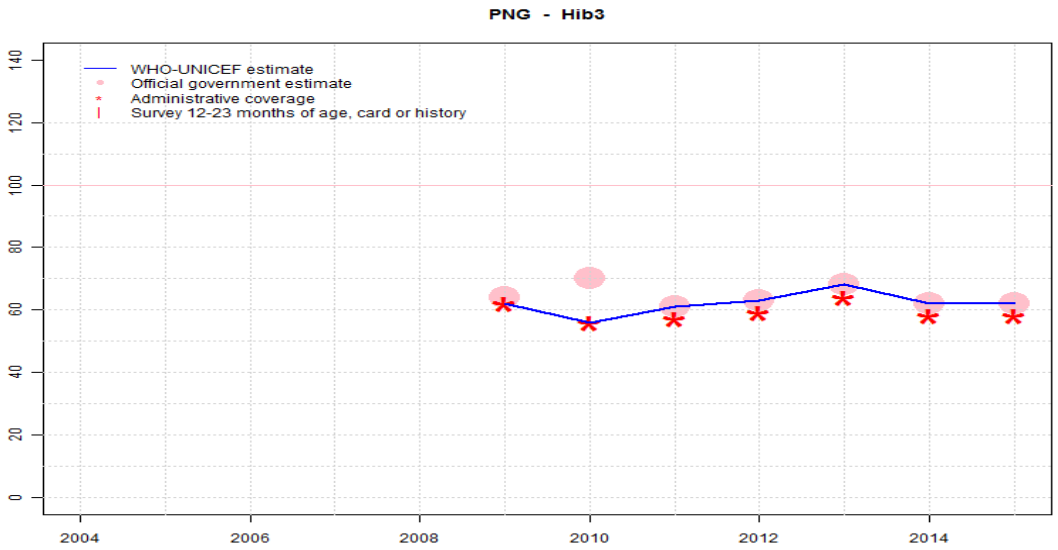
2012: Estimate based on coverage reported by national government. GoC=R+ D+

2013: Estimate based on coverage reported by national government. GoC=R+ D+

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

2015: Estimate based on coverage reported by national government. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Papua New Guinea - Hib3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	62	56	61	63	68	62	62
Estimate GoC	NA	NA	NA	NA	NA	●●	●●	●●	●●	●●	●●	●●
Official	NA	NA	NA	NA	NA	64	70	61	63	68	62	62
Administrative	NA	NA	NA	NA	NA	62	56	57	59	64	58	58
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:

2009: Estimate based on reported administrative estimate. Hib introduced in 2008. Reporting started in 2009. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2010: Estimate based on reported administrative estimate. Vaccine presentation is DTP-HepB-Hib. Public - private sector discrepancy noted by WHO and UNICEF, however, adjustment inconsistently applied across antigens. GoC=R+ D+

2011: Estimate based on coverage reported by national government. Administrative coverage is adjusted for vaccinations provided in the private sector. Previous surveys have consistently indicated higher coverage than administrative coverage. GoC=R+ D+

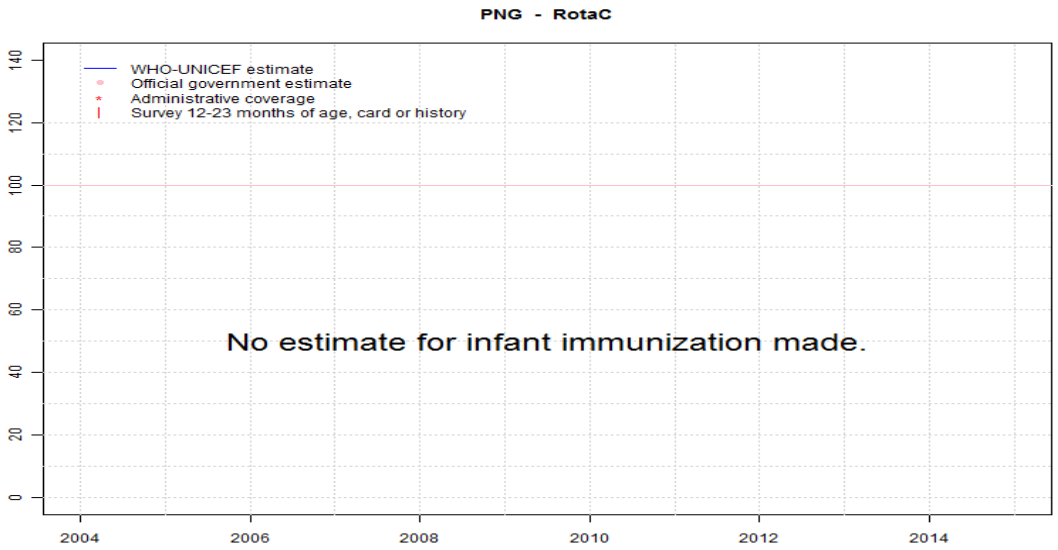
2012: Estimate based on coverage reported by national government. GoC=R+ D+

2013: Estimate based on coverage reported by national government. GoC=R+ D+

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

2015: Estimate based on coverage reported by national government. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Papua New Guinea - RotaC



	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.

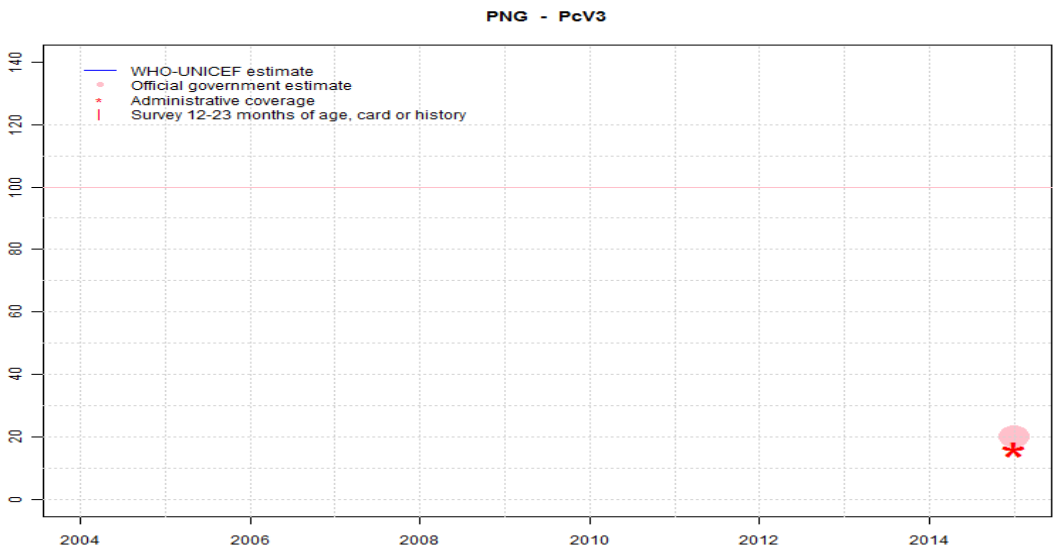
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk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

Papua New Guinea - PcV3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20
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	20
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16
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. Pneumococcal conjugate vaccine introduced in 2013. Reporting began in 2015. GoC=R+ D+

Papua New Guinea - survey details

2004 National Immunization Coverage Survey 2005-2006, Papua New Guinea

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	81	12-23 m	783	93
BCG	Card or History	90	12-23 m	783	93
BCG	History	9	12-23 m	783	93
DTP1	Card	82	12-23 m	776	93
DTP1	Card or History	88	12-23 m	776	93
DTP1	History	6	12-23 m	776	93
DTP3	Card	67	12-23 m	783	93
DTP3	Card or History	71	12-23 m	783	93
DTP3	History	4	12-23 m	783	93
HepB1	Card	82	12-23 m	774	93
HepB1	Card or History	88	12-23 m	774	93
HepB1	History	6	12-23 m	774	93
HepB3	Card	69	12-23 m	774	93
HepB3	Card or History	73	12-23 m	774	93
HepB3	History	4	12-23 m	774	93
MCV1	Card	72	12-23 m	776	93
MCV1	Card or History	78	12-23 m	776	93
MCV1	History	6	12-23 m	776	93
Pol1	Card	79	12-23 m	774	93
Pol1	Card or History	85	12-23 m	774	93
Pol1	History	5	12-23 m	774	93
Pol3	Card	64	12-23 m	776	93
Pol3	Card or History	69	12-23 m	776	93
Pol3	History	5	12-23 m	776	93

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

Papua New Guinea
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	49
2005	53
2006	57
2007	60
2008	61
2009	61
2010	61
2011	61
2012	70
2013	65
2014	70
2015	70

[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.