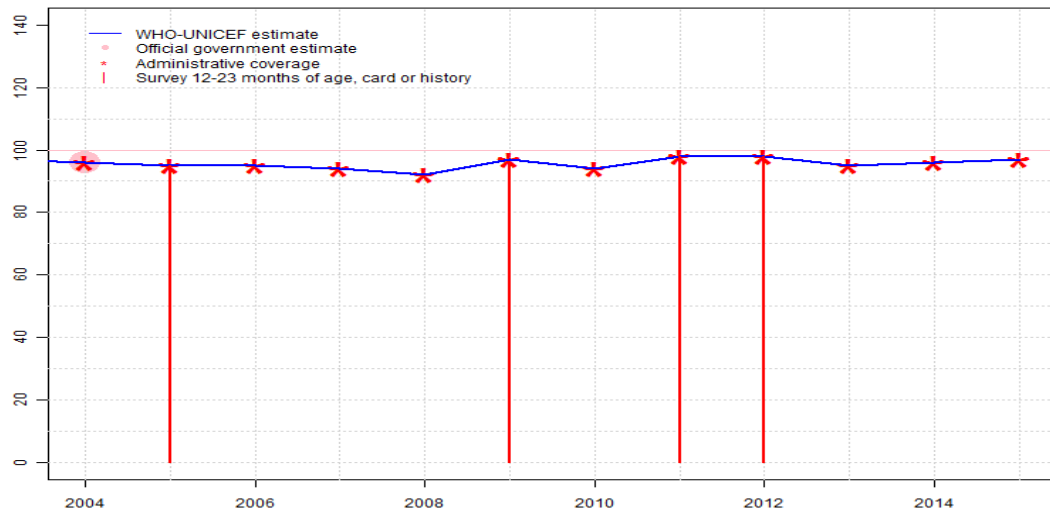


Viet Nam - BCG

VNM - BCG



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	96	95	95	94	92	97	94	98	98	95	96	97
Estimate GoC	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●	●	●	●
Official	96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	96	95	95	94	92	97	94	98	98	95	96	97
Survey	NA	95	NA	NA	NA	96	NA	98	98	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.

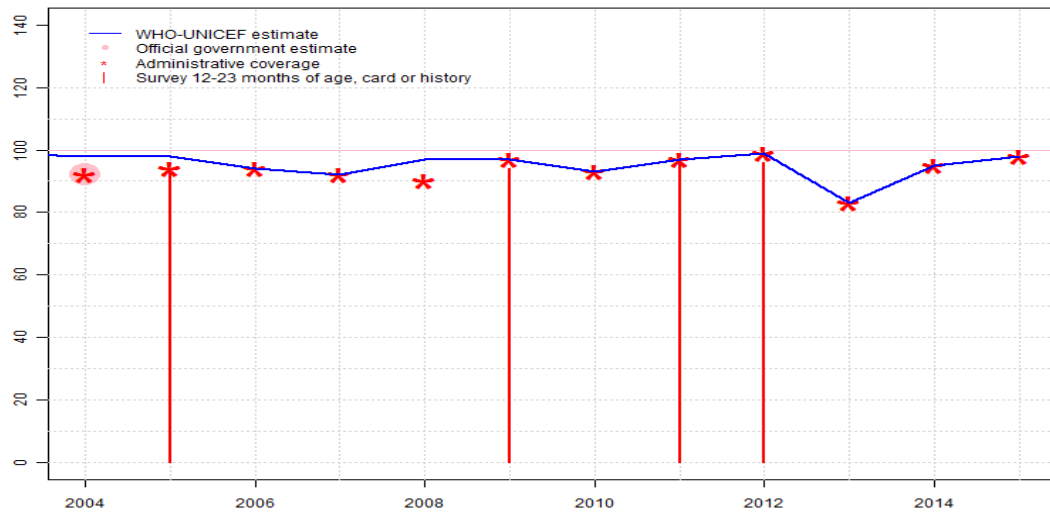
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2004: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2005: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). GoC=R+ S+ D+
- 2006: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2007: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2008: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2009 with results for the 2008 birth cohort. A review of survey methods has concluded that the survey does not provide nationally representative results and therefore is not taken into consideration here. GoC=R+ S+ D+
- 2009: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). GoC=R+ S+ D+
- 2010: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2011: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+ D+
- 2012: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). Survey evidence from MICS was based on 94 percent documented evidence from home-based record plus facility-based records. Estimate challenged by: D-
- 2013: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2015 with results for the 2013-14 birth cohorts. The survey report notes that the survey was not designed to derive national level coverage estimates and therefore is not taken into consideration here. Estimate challenged by: D-
- 2014: Estimate based on reported administrative data. Estimate challenged by: D-
- 2015: Estimate based on reported administrative data. Estimate challenged by: D-

Viet Nam - DTP1

VNM - DTP1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	98	98	94	92	97	97	93	97	99	83	95	98
Estimate GoC	●	●	●●●	●●●	●	●●●	●●●	●●●	●	●	●	●
Official	92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	92	94	94	92	90	97	93	97	99	83	95	98
Survey	NA	94	NA	NA	NA	94	NA	96	96	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.

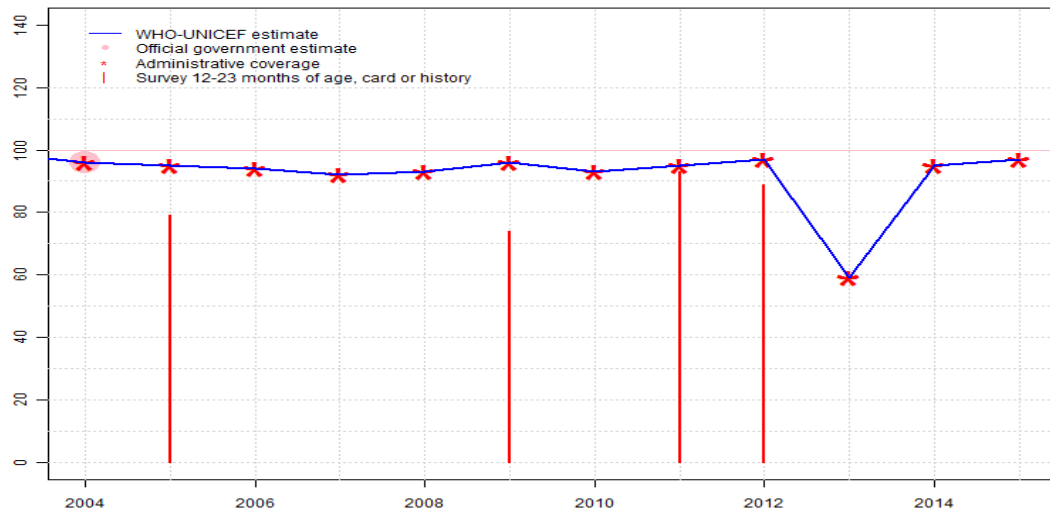
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2004: DTP1 coverage estimated based on DTP3 coverage of 96. Estimate challenged by: R-
- 2005: DTP1 coverage estimated based on DTP3 coverage of 95. Estimate challenged by: R-
- 2006: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2007: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2008: DTP1 coverage estimated based on DTP3 coverage of 93. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2009 with results for the 2008 birth cohort. A review of survey methods has concluded that the survey does not provide nationally representative results and therefore is not taken into consideration here. Estimate challenged by: R-
- 2009: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). GoC=R+ S+ D+
- 2010: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2011: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). GoC=R+ S+ D+
- 2012: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Survey evidence from MICS was based on 94 percent documented evidence from home-based record plus facility-based records. Estimate challenged by: D-
- 2013: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2015 with results for the 2013-14 birth cohorts. The survey report notes that the survey was not designed to derive national level coverage estimates and therefore is not taken into consideration here. Decline in coverage due to suspension of DTP-HepB-Hib pentavalent vaccine at national level for 5 months following adverse events. Estimate challenged by: D-
- 2014: Estimate based on reported administrative data. Recovery in coverage following suspension of DTP-HepB-Hib pentavalent vaccine at national level for 5 months following adverse events. Estimate challenged by: D-
- 2015: Estimate based on reported administrative data. Estimate challenged by: D-

Viet Nam - DTP3

VNM - DTP3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	96	95	94	92	93	96	93	95	97	59	95	97
Estimate GoC	•	•	•	•	•••	•••	•••	•••	•	••	•	•
Official	96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	96	95	94	92	93	96	93	95	97	59	95	97
Survey	NA	79	NA	NA	NA	74	NA	93	89	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:

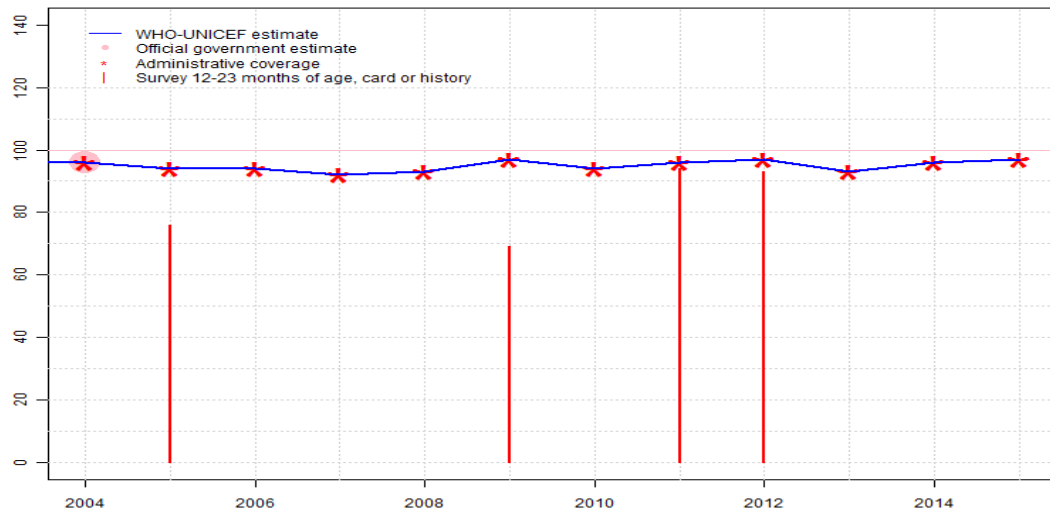
- 2004: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2005: Estimate based on reported administrative data. Viet Nam Multiple Indicator Cluster Survey 2006 - MICS3 results ignored by working group. The 2006 MICS survey has a card retention rate of 38.4 percent, affecting the accuracy of results for higher doses of multiple-dose antigens. Viet Nam Multiple Indicator Cluster Survey 2006 - MICS3 card or history results of 79 percent modified for recall bias to 89 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 38 percent and 3d dose card only coverage of 36 percent. Estimate challenged by: S-
- 2006: Estimate based on reported administrative data. Estimate challenged by: S-
- 2007: Estimate based on reported administrative data. Estimate challenged by: S-
- 2008: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2009 with results for the 2008 birth cohort. A review of survey methods has concluded that the survey does not provide nationally representative results and therefore is not taken into consideration here. GoC=R+ S+ D+
- 2009: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Viet Nam Multiple Indicator Cluster Survey 2010–2011 card or history results of 74 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 50 percent and 3d dose card only coverage of 47 percent. GoC=R+ S+ D+
- 2010: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2011: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Viet Nam Multiple Indicator Cluster Survey, 2014 card or history results of 93 percent modified for recall bias to 97 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 84 percent and 3d dose card only coverage of 85 percent. GoC=R+ S+ D+
- 2012: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 90 percent based on 1 survey(s). Viet Nam Multiple Indicator Cluster Survey, 2014 card or history results of 89 percent modified for recall bias to 90 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 89 percent and 3d dose card only coverage of 83 percent. Survey evidence from MICS was based on 94 percent documented evidence from home-based record plus facility-based records. Estimate challenged by: D-

Viet Nam - DTP3

- 2013: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2015 with results for the 2013-14 birth cohorts. The survey report notes that the survey was not designed to derive national level coverage estimates and therefore is not taken into consideration here. Decline in coverage due to suspension of DTP-HepB-Hib pentavalent vaccine at national level for 5 months following adverse events. GoC=R+ D+
- 2014: Estimate based on reported administrative data. Recovery in coverage following suspension of DTP-HepB-Hib pentavalent vaccine at national level for 5 months following adverse events. Estimate challenged by: D-
- 2015: Estimate based on reported administrative data. Estimate challenged by: D-

Viet Nam - Pol3

VNM - Pol3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	96	94	94	92	93	97	94	96	97	93	96	97
Estimate GoC	•	•	•••	•••	•••	•••	•••	•••	•	•	•	•
Official	96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	96	94	94	92	93	97	94	96	97	93	96	97
Survey	NA	76	NA	NA	NA	69	NA	94	93	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 administrative data reported by national government supported by survey. Survey evidence of 91 percent based on 1 survey(s). Viet Nam Multiple Indicator Cluster Survey 2006 - MICS3 card or history results of 76 percent modified for recall bias to 91 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 38 percent and 3d dose card only coverage of 36 percent. Estimate challenged by: D-
- 2006: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2007: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2008: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2009 with results for the 2008 birth cohort. A review of survey methods has concluded that the survey does not provide nationally representative results and therefore is not taken into consideration here. GoC=R+ S+ D+
- 2009: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Viet Nam Multiple Indicator Cluster Survey 2010-2011 card or history results of 69 percent modified for recall bias to 88 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 47 percent and 3d dose card only coverage of 45 percent. GoC=R+ S+ D+
- 2010: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2011: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Viet Nam Multiple Indicator Cluster Survey, 2014 card or history results of 94 percent modified for recall bias to 96 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 87 percent and 3d dose card only coverage of 86 percent. GoC=R+ S+ D+
- 2012: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). Viet Nam Multiple Indicator Cluster Survey, 2014 card or history results of 93 percent modified for recall bias to 94 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 92 percent and 3d dose card only coverage of 89 percent. Survey evidence from MICS was based on 94 percent documented evidence from home-based record plus facility-based records. Estimate challenged by: D-
- 2013: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2015 with results for the 2013-14 birth cohorts. The survey report notes

Viet Nam - Pol3

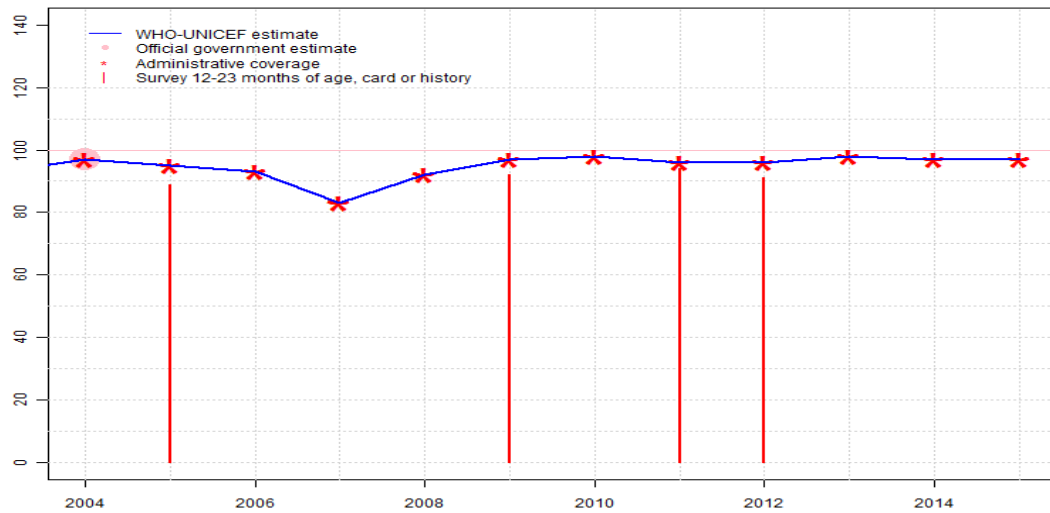
that the survey was not designed to derive national level coverage estimates and therefore is not taken into consideration here. Estimate challenged by:
D-

2014: Estimate based on reported administrative data. Estimate challenged by:
D-

2015: Estimate based on reported administrative data. Estimate challenged by:
D-

Viet Nam - MCV1

VNM - MCV1



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	97	95	93	83	92	97	98	96	96	98	97	97
Estimate GoC	●	●	●	●●●	●	●●●	●●●	●●●	●	●	●	●
Official	97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	97	95	93	83	92	97	98	96	96	98	97	97
Survey	NA	89	NA	NA	NA	92	NA	94	91	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.

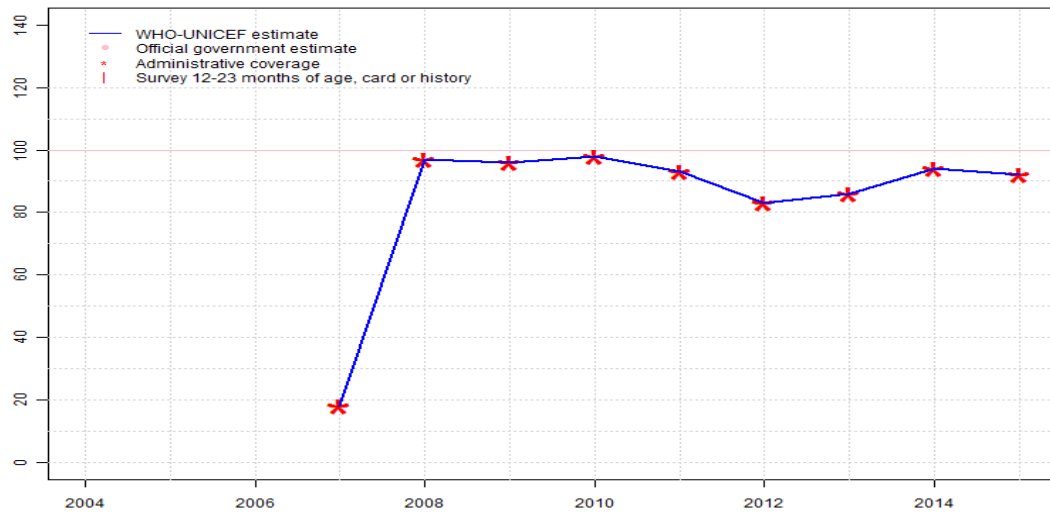
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2004: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2005: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Estimate challenged by: D-
- 2006: Estimate based on reported administrative data. Estimate challenged by: D-
- 2007: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2008: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2009 with results for the 2008 birth cohort. A review of survey methods has concluded that the survey does not provide nationally representative results and therefore is not taken into consideration here. Estimate challenged by: D-
- 2009: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). GoC=R+ S+ D+
- 2010: Estimate based on reported administrative data. GoC=R+ S+ D+
- 2011: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). GoC=R+ S+ D+
- 2012: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 91 percent based on 1 survey(s). Survey evidence from MICS was based on 94 percent documented evidence from home-based record plus facility-based records. Estimate challenged by: D-
- 2013: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2015 with results for the 2013-14 birth cohorts. The survey report notes that the survey was not designed to derive national level coverage estimates and therefore is not taken into consideration here. Estimate challenged by: D-
- 2014: Estimate based on reported administrative data. Estimate challenged by: D-
- 2015: Estimate based on reported administrative data. Estimate challenged by: D-

Viet Nam - MCV2

VNM - MCV2



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	18	97	96	98	93	83	86	94	92
Estimate GoC	NA	NA	NA	••	••	••	••	••	••	••	•	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	18	97	96	98	93	83	86	94	92
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.

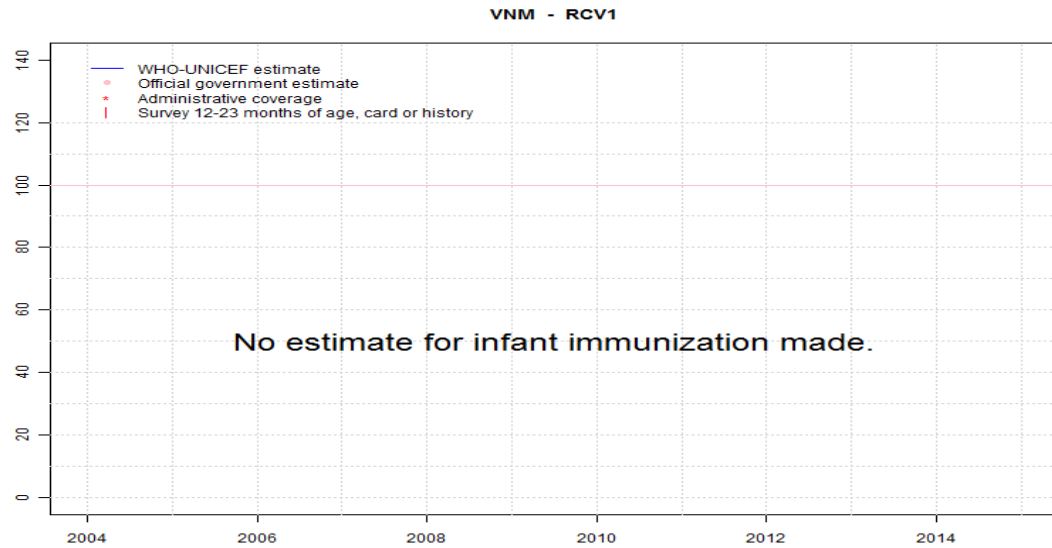
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk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

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

- 2007: Estimate based on reported administrative estimate. GoC=R+ D+
- 2008: Estimate based on reported administrative estimate. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2009 with results for the 2008 birth cohort. A review of survey methods has concluded that the survey does not provide nationally representative results and therefore is not taken into consideration here. GoC=R+ D+
- 2009: Estimate based on reported administrative estimate. GoC=R+ D+
- 2010: Estimate based on reported administrative estimate. GoC=R+ D+
- 2011: Estimate based on reported administrative estimate. GoC=R+ D+
- 2012: Estimate based on reported administrative estimate. Survey evidence from MICS was based on 94 percent documented evidence from home-based record plus facility-based records. GoC=R+ D+
- 2013: Estimate based on reported administrative estimate. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2015 with results for the 2013-14 birth cohorts. The survey report notes that the survey was not designed to derive national level coverage estimates and therefore is not taken into consideration here. GoC=R+ D+
- 2014: Estimate based on reported administrative estimate. Estimate challenged by: D-
- 2015: Estimate based on reported administrative estimate. GoC=R+ D+



	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

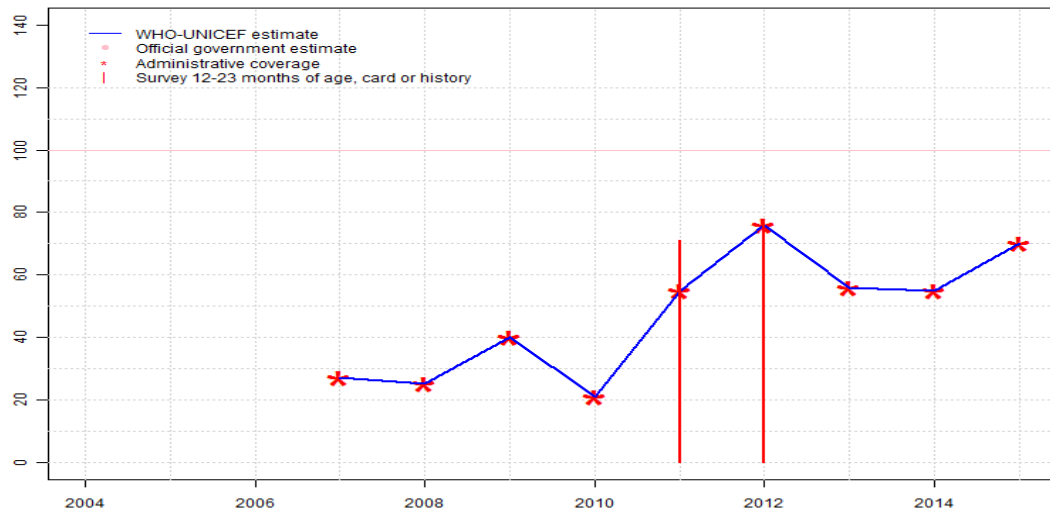
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Viet Nam - HepBB

VNM - HepBB



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	27	25	40	21	55	76	56	55	70
Estimate GoC	NA	NA	NA	••	••	•	•	•	•	•	••	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	27	25	40	21	55	76	56	55	70
Survey	NA	NA	NA	NA	NA	NA	NA	71	78	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.

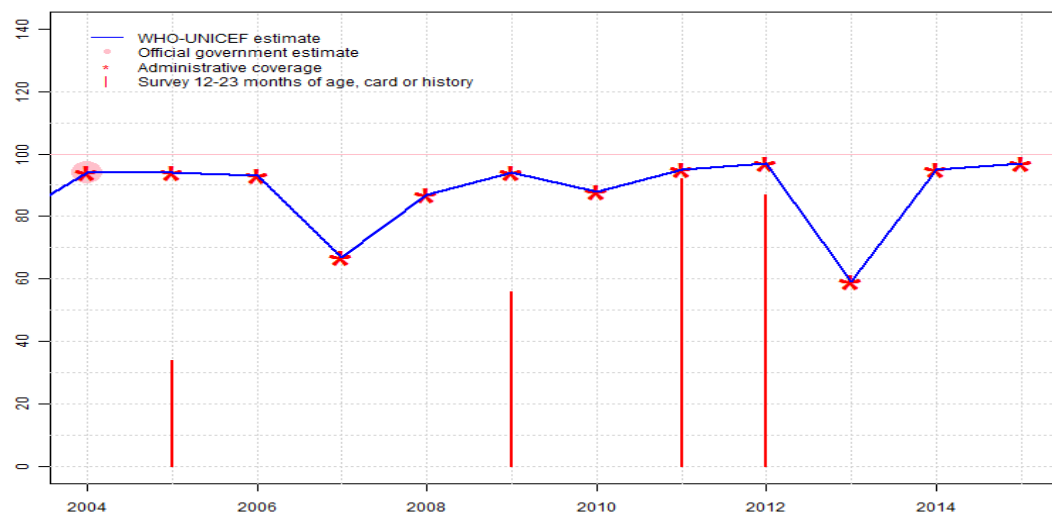
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2007: Estimate based on reported data. Estimate of 27 percent changed from previous revision value of 15 percent. GoC=R+ D+
- 2008: Estimate based on reported data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2009 with results for the 2008 birth cohort. A review of survey methods has concluded that the survey does not provide nationally representative results and therefore is not taken into consideration here. Estimate of 25 percent changed from previous revision value of 13 percent. GoC=R+ D+
- 2009: Estimate based on reported data. Estimate based on reported coverage data. Estimate of 40 percent changed from previous revision value of 28 percent. Estimate challenged by: S-
- 2010: Estimate based on reported data. Decline in coverage reflects suspension of vaccination following adverse event. Estimate of 21 percent changed from previous revision value of 9 percent. Estimate challenged by: S-
- 2011: Estimate based on reported data. Viet Nam Multiple Indicator Cluster Survey, 2014 results ignored by working group. Survey evidence for 2011 birth cohort likely reflects intensification activities occurring in the alter half of 2011 that are also observed for the 2012 birth cohort. Estimate of 55 percent changed from previous revision value of 43 percent. Estimate challenged by: S-
- 2012: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 78 percent based on 1 survey(s). Survey evidence from MICS was based on 94 percent documented evidence from home-based record plus facility-based records. Estimate based on reported coverage data. Estimate of 76 percent changed from previous revision value of 64 percent. Estimate challenged by: S-
- 2013: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2015 with results for the 2013-14 birth cohorts. The survey report notes that the survey was not designed to derive national level coverage estimates and therefore is not taken into consideration here. Decline in coverage due to suspension of DTP-HepB-Hib pentavalent vaccine at national level for 5 months following adverse events. Estimate of 56 percent changed from previous revision value of 44 percent. Estimate challenged by: S-
- 2014: Estimate based on reported administrative data. Estimate of 55 percent changed from previous revision value of 43 percent. GoC=R+ D+
- 2015: Estimate based on reported administrative data. Reported data suggests recovery from service disruption following adverse events in prior years. Programme reports intensified efforts to improve reach of HepB birth dose including use of monovalent HepB vaccine out of the cold chain as well as additional trainings of health workers and birth attendants. GoC=R+ D+

Viet Nam - HepB3

VNM - HepB3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	94	94	93	67	87	94	88	95	97	59	95	97
Estimate GoC	•	•	•	•	•	•	•	•	•	••	•	•
Official	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	94	94	93	67	87	94	88	95	97	59	95	97
Survey	NA	34	NA	NA	NA	56	NA	92	87	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 reported data. Estimate challenged by: D-S-
- 2005: Estimate based on reported data. Viet Nam Multiple Indicator Cluster Survey 2006 - MICS3 results ignored by working group. The 2006 MICS survey has a card retention rate of 38.4 percent, affecting the accuracy of results for higher doses of multiple-dose antigens. Viet Nam Multiple Indicator Cluster Survey 2006 - MICS3 card or history results of 34 percent modified for recall bias to 36 percent based on 1st dose card or history coverage of 38 percent, 1st dose card only coverage of 36 percent and 3d dose card only coverage of 34 percent. Estimate challenged by: S-
- 2006: Estimate based on reported data. Estimate challenged by: D-S-
- 2007: Estimate based on reported data. There was a stock-out of one month in 2007. Estimate challenged by: S-
- 2008: Estimate based on reported data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2009 with results for the 2008 birth cohort. A review of survey methods has concluded that the survey does not provide nationally representative results and therefore is not taken into consideration here. Estimate challenged by: S-
- 2009: Estimate based on reported data. Viet Nam Multiple Indicator Cluster Survey 2010–2011 results ignored by working group. Survey results likely too low due to confusion of monovalent HepB and pentavalent doses. Viet Nam Multiple Indicator Cluster Survey 2010–2011 card or history results of 56 percent modified for recall bias to 73 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 50 percent and 3d dose card only coverage of 40 percent. Estimate challenged by: S-
- 2010: Estimate based on reported data. Estimate challenged by: S-
- 2011: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Viet Nam Multiple Indicator Cluster Survey, 2014 card or history results of 92 percent modified for recall bias to 96 percent based on 1st dose card or history coverage of 95 percent, 1st dose card only coverage of 81 percent and 3d dose card only coverage of 82 percent. Estimate challenged by: S-
- 2012: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Viet Nam Multiple Indicator Cluster Survey, 2014 card or history results of 87 percent modified for recall bias to 89 percent based on 1st dose card or history coverage of 95 percent, 1st dose card only coverage of 88 percent and 3d dose card only coverage of 82 percent. Survey evidence from MICS was based on 94 percent documented evidence from home-based record plus facility-based records. Estimate challenged by: D-
- 2013: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in

Viet Nam - HepB3

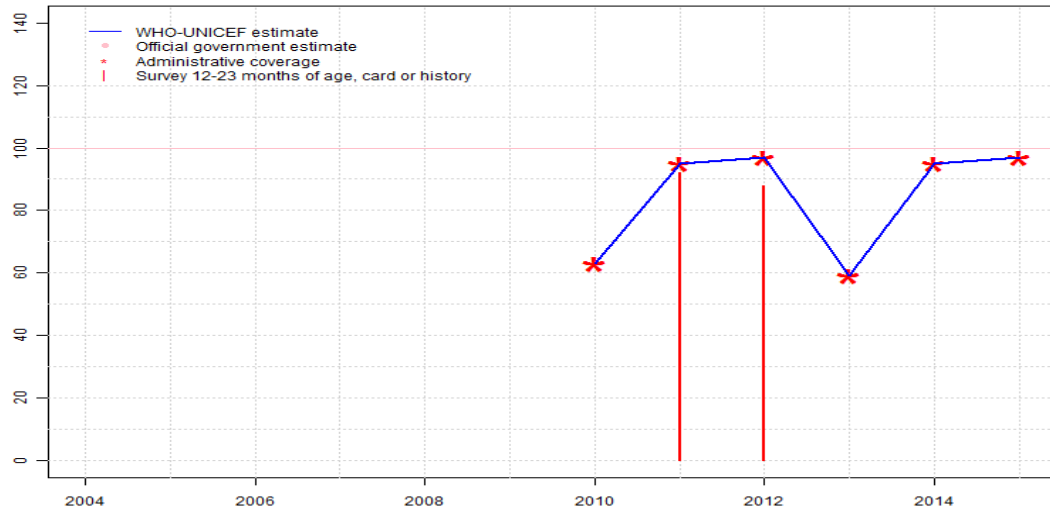
2015 with results for the 2013-14 birth cohorts. The survey report notes that the survey was not designed to derive national level coverage estimates and therefore is not taken into consideration here. Decline in coverage due to suspension of DTP-HepB-Hib pentavalent vaccine at national level for 5 months following adverse events. GoC=R+ D+

2014: Estimate based on reported administrative data. Recovery in coverage following suspension of DTP-HepB-Hib pentavalent vaccine at national level for 5 months following adverse events. Estimate challenged by: D-

2015: Estimate based on reported administrative data. Estimate challenged by: D-

Viet Nam - Hib3

VNM - Hib3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	63	95	97	59	95	97
Estimate GoC	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	63	95	97	59	95	97
Survey	NA	NA	NA	NA	NA	NA	NA	92	88	NA	NA	NA

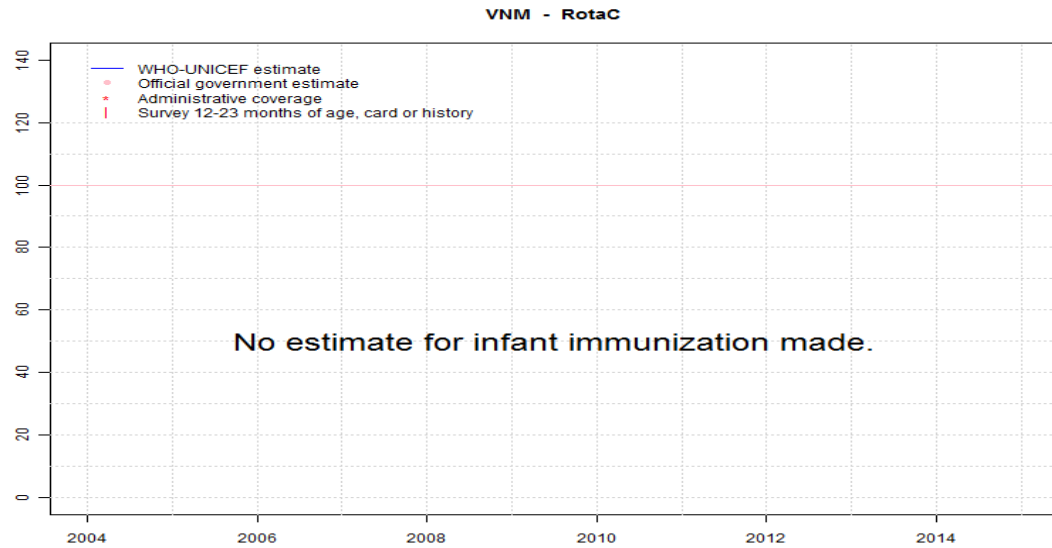
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- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While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

- 2010: Estimate based on reported data. Hib vaccine introduced in 2010. Vaccine presentation is DTP-HepB-Hib. GoC=R+ D+
- 2011: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Viet Nam Multiple Indicator Cluster Survey, 2014 card or history results of 92 percent modified for recall bias to 96 percent based on 1st dose card or history coverage of 95 percent, 1st dose card only coverage of 83 percent and 3d dose card only coverage of 84 percent. GoC=R+ S+ D+
- 2012: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Survey evidence from MICS was based on 94 percent documented evidence from home-based record plus facility-based records. Estimate challenged by: D-
- 2013: Estimate based on reported administrative data. WHO and UNICEF are aware of the conduct of a subnational EPI coverage survey conducted in 2015 with results for the 2013-14 birth cohorts. The survey report notes that the survey was not designed to derive national level coverage estimates and therefore is not taken into consideration here. Decline in coverage due to suspension of DTP-HepB-Hib pentavalent vaccine at national level for 5 months following adverse events. GoC=R+ D+
- 2014: Estimate based on reported administrative data. Recovery in coverage following suspension of DTP-HepB-Hib pentavalent vaccine at national level for 5 months following adverse events. Estimate challenged by: D-
- 2015: Estimate based on reported administrative data. Estimate challenged by: D-

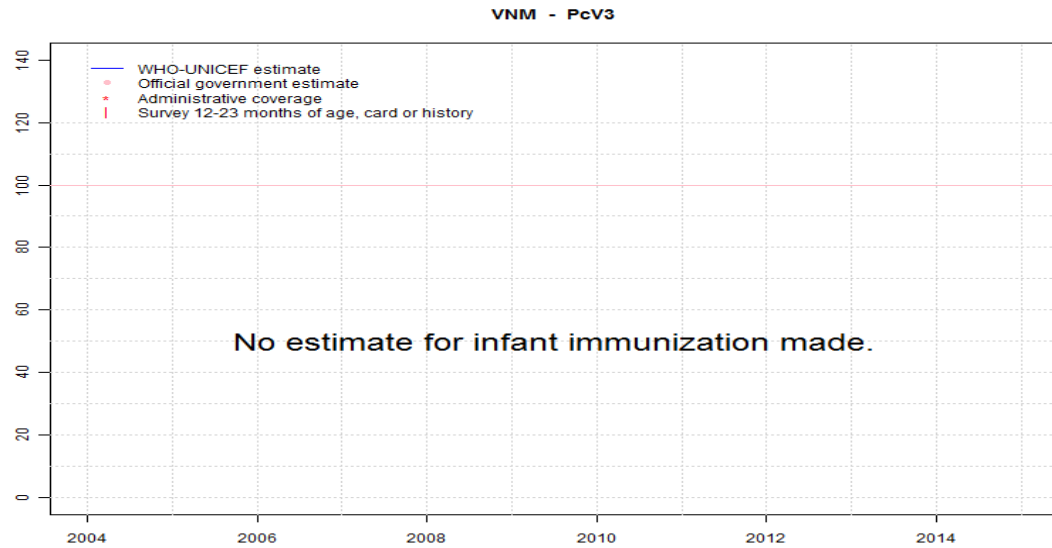


	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.



	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.

Viet Nam - survey details

2012 Viet Nam Multiple Indicator Cluster Survey, 2014

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	98	12-23 m	790	94
BCG	Card	93	12-23 m	790	94
BCG	Card or History	98	12-23 m	790	94
BCG	History	5	12-23 m	790	94
DTP1	C or H <12 months	96	12-23 m	790	94
DTP1	Card	89	12-23 m	790	94
DTP1	Card or History	96	12-23 m	790	94
DTP1	History	7	12-23 m	790	94
DTP3	C or H <12 months	89	12-23 m	790	94
DTP3	Card	83	12-23 m	790	94
DTP3	Card or History	89	12-23 m	790	94
DTP3	History	5	12-23 m	790	94
HepB1	C or H <12 months	95	12-23 m	790	94
HepB1	Card	88	12-23 m	790	94
HepB1	Card or History	95	12-23 m	790	94
HepB1	History	7	12-23 m	790	94
HepB3	C or H <12 months	87	12-23 m	790	94
HepB3	Card	82	12-23 m	790	94
HepB3	Card or History	87	12-23 m	790	94
HepB3	History	5	12-23 m	790	94
HepBB	C or H <12 months	78	12-23 m	790	94
HepBB	Card	71	12-23 m	790	94
HepBB	Card or History	78	12-23 m	790	94
HepBB	History	8	12-23 m	790	94
Hib1	C or H <12 months	95	12-23 m	790	94
Hib1	Card	89	12-23 m	790	94
Hib1	Card or History	95	12-23 m	790	94
Hib1	History	6	12-23 m	790	94
Hib3	C or H <12 months	88	12-23 m	790	94
Hib3	Card	82	12-23 m	790	94
Hib3	Card or History	88	12-23 m	790	94
Hib3	History	5	12-23 m	790	94
MCV1	C or H <12 months	86	12-23 m	790	94
MCV1	Card	86	12-23 m	790	94
MCV1	Card or History	91	12-23 m	790	94
MCV1	History	5	12-23 m	790	94
Pol1	C or H <12 months	97	12-23 m	790	94

Pol1	Card	92	12-23 m	790	94
Pol1	Card or History	97	12-23 m	790	94
Pol1	History	5	12-23 m	790	94
Pol3	C or H <12 months	92	12-23 m	790	94
Pol3	Card	89	12-23 m	790	94
Pol3	Card or History	93	12-23 m	790	94
Pol3	History	4	12-23 m	790	94

2011 Viet Nam Multiple Indicator Cluster Survey, 2014

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	97	24-35 m	641	94
BCG	Card	87	24-35 m	641	94
BCG	Card or History	98	24-35 m	641	94
BCG	History	10	24-35 m	641	94
DTP1	C or H <12 months	96	24-35 m	641	94
DTP1	Card	84	24-35 m	641	94
DTP1	Card or History	96	24-35 m	641	94
DTP1	History	12	24-35 m	641	94
DTP3	C or H <12 months	93	24-35 m	641	94
DTP3	Card	85	24-35 m	641	94
DTP3	Card or History	93	24-35 m	641	94
DTP3	History	9	24-35 m	641	94
HepB1	C or H <12 months	95	24-35 m	641	94
HepB1	Card	81	24-35 m	641	94
HepB1	Card or History	95	24-35 m	641	94
HepB1	History	14	24-35 m	641	94
HepB3	C or H <12 months	92	24-35 m	641	94
HepB3	Card	82	24-35 m	641	94
HepB3	Card or History	92	24-35 m	641	94
HepB3	History	10	24-35 m	641	94
HepBB	C or H <12 months	71	24-35 m	641	94
HepBB	Card	62	24-35 m	641	94
HepBB	Card or History	71	24-35 m	641	94
HepBB	History	9	24-35 m	641	94
Hib1	C or H <12 months	95	24-35 m	641	94
Hib1	Card	83	24-35 m	641	94
Hib1	Card or History	95	24-35 m	641	94
Hib1	History	12	24-35 m	641	94

Viet Nam - survey details

Hib3	C or H <12 months	92	24-35 m	641	94
Hib3	Card	84	24-35 m	641	94
Hib3	Card or History	92	24-35 m	641	94
Hib3	History	8	24-35 m	641	94
MCV1	C or H <12 months	89	24-35 m	641	94
MCV1	Card	86	24-35 m	641	94
MCV1	Card or History	94	24-35 m	641	94
MCV1	History	8	24-35 m	641	94
Pol1	C or H <12 months	96	24-35 m	641	94
Pol1	Card	87	24-35 m	641	94
Pol1	Card or History	97	24-35 m	641	94
Pol1	History	10	24-35 m	641	94
Pol3	C or H <12 months	92	24-35 m	641	94
Pol3	Card	86	24-35 m	641	94
Pol3	Card or History	94	24-35 m	641	94
Pol3	History	8	24-35 m	641	94

HepB3	History	16	12-23 m	759	52
MCV1	C or H <12 months	84	12-23 m	759	52
MCV1	Card	47	12-23 m	759	52
MCV1	Card or History	92	12-23 m	759	52
MCV1	History	45	12-23 m	759	52
Pol1	C or H <12 months	91	12-23 m	759	52
Pol1	Card	47	12-23 m	759	52
Pol1	Card or History	92	12-23 m	759	52
Pol1	History	44	12-23 m	759	52
Pol3	C or H <12 months	68	12-23 m	759	52
Pol3	Card	45	12-23 m	759	52
Pol3	Card or History	69	12-23 m	759	52
Pol3	History	24	12-23 m	759	52

2005 Dieu tra đánh giá các mục tiêu ve tre em và phu nu Viet Nam 2006

2009 Viet Nam Multiple Indicator Cluster Survey 2010–2011

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	95	12-23 m	759	52
BCG	Card	50	12-23 m	759	52
BCG	Card or History	96	12-23 m	759	52
BCG	History	45	12-23 m	759	52
DTP1	C or H <12 months	94	12-23 m	759	52
DTP1	Card	50	12-23 m	759	52
DTP1	Card or History	94	12-23 m	759	52
DTP1	History	44	12-23 m	759	52
DTP3	C or H <12 months	73	12-23 m	759	52
DTP3	Card	47	12-23 m	759	52
DTP3	Card or History	74	12-23 m	759	52
DTP3	History	27	12-23 m	759	52
HepB1	C or H <12 months	90	12-23 m	759	52
HepB1	Card	50	12-23 m	759	52
HepB1	Card or History	91	12-23 m	759	52
HepB1	History	41	12-23 m	759	52
HepB3	C or H <12 months	53	12-23 m	759	52
HepB3	Card	40	12-23 m	759	52
HepB3	Card or History	56	12-23 m	759	52

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	94	12-23 m	555	38
BCG	Card	38	12-23 m	555	38
BCG	Card or History	95	12-23 m	555	38
BCG	History	57	12-23 m	555	38
DTP1	C or H <12 months	92	12-23 m	555	38
DTP1	Card	38	12-23 m	555	38
DTP1	Card or History	94	12-23 m	555	38
DTP1	History	56	12-23 m	555	38
DTP3	C or H <12 months	76	12-23 m	555	38
DTP3	Card	36	12-23 m	555	38
DTP3	Card or History	79	12-23 m	555	38
DTP3	History	43	12-23 m	555	38
HepB1	C or H <12 months	37	12-23 m	555	38
HepB1	Card	36	12-23 m	555	38
HepB1	Card or History	38	12-23 m	555	38
HepB1	History	1	12-23 m	555	38
HepB3	C or H <12 months	32	12-23 m	555	38
HepB3	Card	34	12-23 m	555	38
HepB3	Card or History	34	12-23 m	555	38
HepB3	History	0	12-23 m	555	38
MCV1	C or H <12 months	87	12-23 m	555	38

Viet Nam - survey details

MCV1	Card	34	12-23 m	555	38
MCV1	Card or History	89	12-23 m	555	38
MCV1	History	55	12-23 m	555	38
Pol1	C or H <12 months	94	12-23 m	555	38
Pol1	Card	38	12-23 m	555	38
Pol1	Card or History	96	12-23 m	555	38
Pol1	History	58	12-23 m	555	38
Pol3	C or H <12 months	74	12-23 m	555	38
Pol3	Card	36	12-23 m	555	38
Pol3	Card or History	76	12-23 m	555	38
Pol3	History	39	12-23 m	555	38

2001 Vietnam Demographic and Health Survey 2002, 2003

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	93	12-23 m	457	40
BCG	History	54	12-23 m	457	40
DTP1	Card	38	12-23 m	457	40
DTP1	Card or History	88	12-23 m	457	40
DTP1	History	50	12-23 m	457	40
DTP3	Card	35	12-23 m	457	40
DTP3	Card or History	72	12-23 m	457	40
DTP3	History	38	12-23 m	457	40
MCV1	Card	36	12-23 m	457	40
MCV1	Card or History	83	12-23 m	457	40

MCV1	History	47	12-23 m	457	40
Pol1	Card	39	12-23 m	457	40
Pol1	Card or History	93	12-23 m	457	40
Pol1	History	54	12-23 m	457	40
Pol3	Card	36	12-23 m	457	40
Pol3	Card or History	76	12-23 m	457	40
Pol3	History	39	12-23 m	457	40

2000 Children Indicators in Vietnam 2001, 2002

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	97	12-23 m	-	-
DTP3	Card or History	96	12-23 m	-	-
MCV1	Card or History	98	12-23 m	-	-
Pol3	Card or History	96	12-23 m	-	-

1997 EPI Review Vietnam 1998

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	94	12-23 m	1057	-
BCG	Card or History	96	12-23 m	1057	-

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

Viet Nam

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	85
2005	86
2006	87
2007	86
2008	84
2009	87
2010	87
2011	87
2012	91
2013	91
2014	91
2015	94

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.