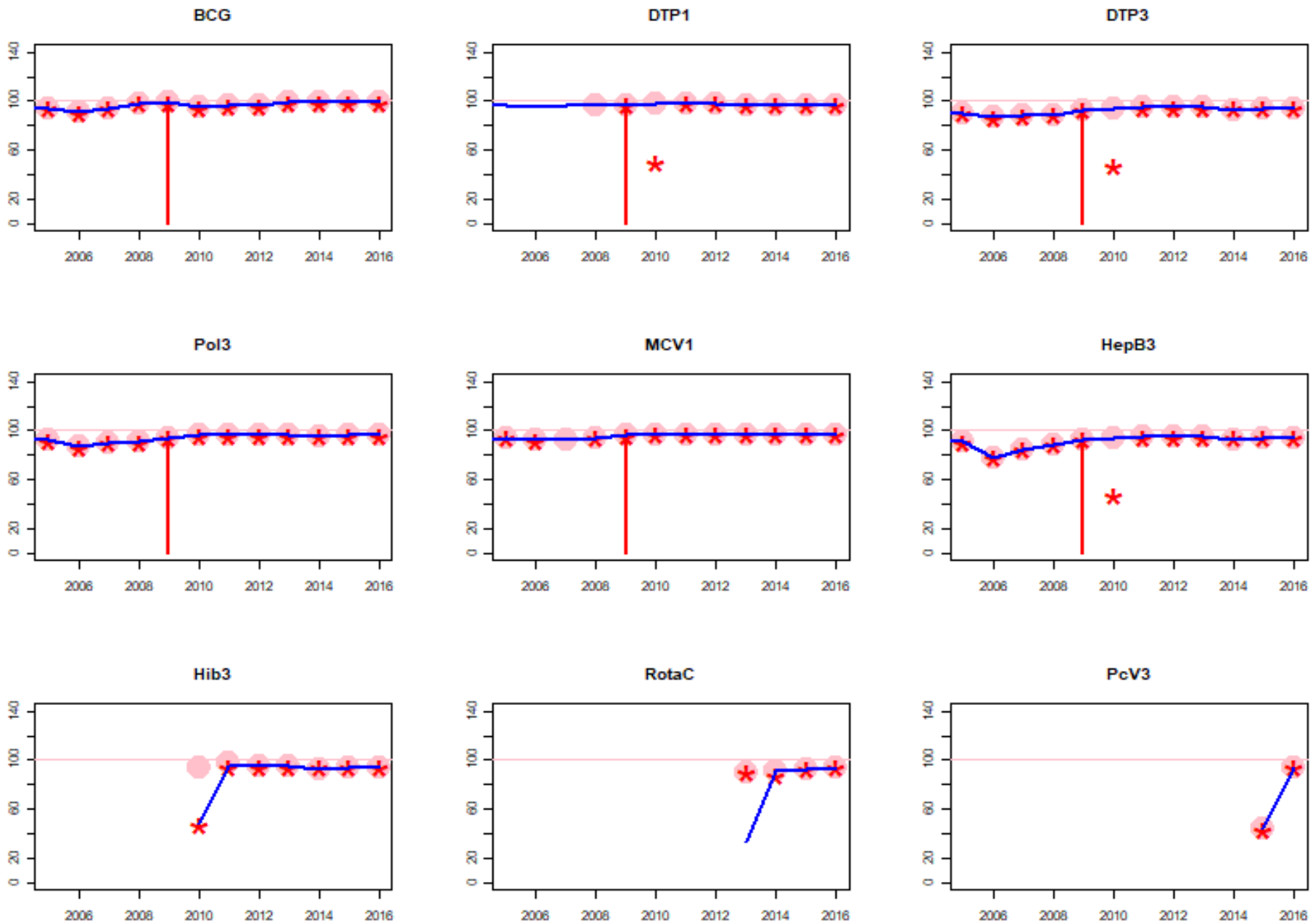


Armenia: WHO and UNICEF estimates of immunization coverage: 2016 revision



**BACKGROUND NOTE:** Each year WHO and UNICEF jointly review reports submitted by Member States regarding national immunization coverage, finalized survey reports as well as data from the published and grey literature. Based on these data, with due consideration to potential biases and the views of local experts, WHO and UNICEF attempt to distinguish between situations where the available empirical data accurately reflect immunization system performance and those where the data are likely to be compromised and present a misleading view of immunization coverage while jointly estimating the most likely coverage levels for each country.

WHO and UNICEF estimates are country-specific; that is to say, each country's data are reviewed individually, and data are not borrowed from other countries in the absence of data. Estimates are not based on ad hoc adjustments to reported data; in some instances empirical data are available from a single source, usually the nationally reported coverage data. In cases where no data are available for a given country/vaccine/year combination, data are considered from earlier and later years and interpolated to estimate coverage for the missing year(s). In cases where data sources are mixed and show large variation, an attempt is made to identify the most likely estimate with consideration of the possible biases in available data. For methods see:

\*Burton et al. 2009. WHO and UNICEF estimates of national infant immunization coverage: methods and processes.

\*Burton et al. 2012. A formal representation of the WHO and UNICEF estimates of national immunization coverage: a computational logic approach.

\*Brown et al. 2013. An introduction to the grade of confidence used to characterize uncertainty around the WHO and UNICEF estimates of national immunization coverage.

## DATA SOURCES.

**ADMINISTRATIVE coverage:** Reported by national authorities and based on aggregated administrative reports from health service providers on the number of vaccinations administered during a given period (numerator data) and reported target population data (denominator data). May be biased by inaccurate numerator and/or denominator data.

**OFFICIAL coverage:** Estimated coverage reported by national authorities that reflects their assessment of the most likely coverage based on any combination of administrative coverage, survey-based estimates or other data sources or adjustments. Approaches to determine OFFICIAL coverage may differ across countries.

**SURVEY coverage:** Based on estimated coverage from population-based household surveys among children aged 12-23 months or 24-35 months following a review of survey methods and results. Information is based on the combination of vaccination history from documented evidence or caregiver recall. Survey results are considered for the appropriate birth cohort based on the period of data collection.

## ABBREVIATIONS

**BCG:** percentage of births who received one dose of Bacillus Calmette Guerin vaccine.

**DTP1 / DTP3:** percentage of surviving infants who received the 1st / 3rd dose, respectively, of diphtheria and tetanus toxoid with pertussis containing vaccine.

**Pol3:** percentage of surviving infants who received the 3rd dose of polio containing vaccine. May be either oral or inactivated polio vaccine.

**IPV1:** percentage of surviving infants who received at least one dose of inactivated polio vaccine. In countries utilizing an immunization schedule recommending either (i) a primary series of three doses of oral polio vaccine (OPV) plus at least one dose of IPV where OPV is included in routine

immunization and/or campaign or (ii) a sequential schedule of IPV followed by OPV, WHO and UNICEF estimates for IPV1 reflect coverage with at least one routine dose of IPV among infants <1 year of age among countries. For countries utilizing IPV containing vaccine use only, i.e., no recommended dose of OPV, the WHO and UNICEF estimate for IPV1 corresponds to coverage for the 1st dose of IPV.

Production of IPV coverage estimates, which begins in 2015, results in no change of the estimated coverage levels for the 3rd dose of polio (Pol3). For countries recommending routine immunization with a primary series of three doses of IPV alone, WHO and UNICEF estimated Pol3 coverage is equivalent to estimated coverage with three doses of IPV. For countries with a sequential schedule, estimated Pol3 coverage is based on that for the 3rd dose of polio vaccine regardless of vaccine type.

**MCV1:** percentage of surviving infants who received the 1st dose of measles containing vaccine. In countries where the national schedule recommends the 1st dose of MCV at 12 months or later based on the epidemiology of disease in the country, coverage estimates reflect the percentage of children who received the 1st dose of MCV as recommended.

**MCV2:** percentage of children who received the 2nd dose of measles containing vaccine according to the nationally recommended schedule.

**RCV1:** percentage of surviving infants who received the 1st dose of rubella containing vaccine. Coverage estimates are based on WHO and UNICEF estimates of coverage for the dose of measles containing vaccine that corresponds to the first measles-rubella combination vaccine. Nationally reported coverage of RCV is not taken into consideration nor are the data represented in the accompanying graph and data table.

**HepBB:** percentage of births which received a dose of hepatitis B vaccine within 24 hours of delivery. Estimates of hepatitis B birth dose coverage are produced only for countries with a universal birth dose policy. Estimates are not produced for countries that recommend a birth dose to infants born to HepB virus-infected mothers only or where there is insufficient information to determine whether vaccination is within 24 hours of birth.

**HepB3:** percentage of surviving infants who received the 3rd dose of hepatitis B containing vaccine following the birth dose.

**Hib3:** percentage of surviving infants who received the 3rd dose of Haemophilus influenzae type b containing vaccine.

**RotaC:** percentage of surviving infants who received the final recommended dose of rotavirus vaccine, which can be either the 2nd or the 3rd dose depending on the vaccine.

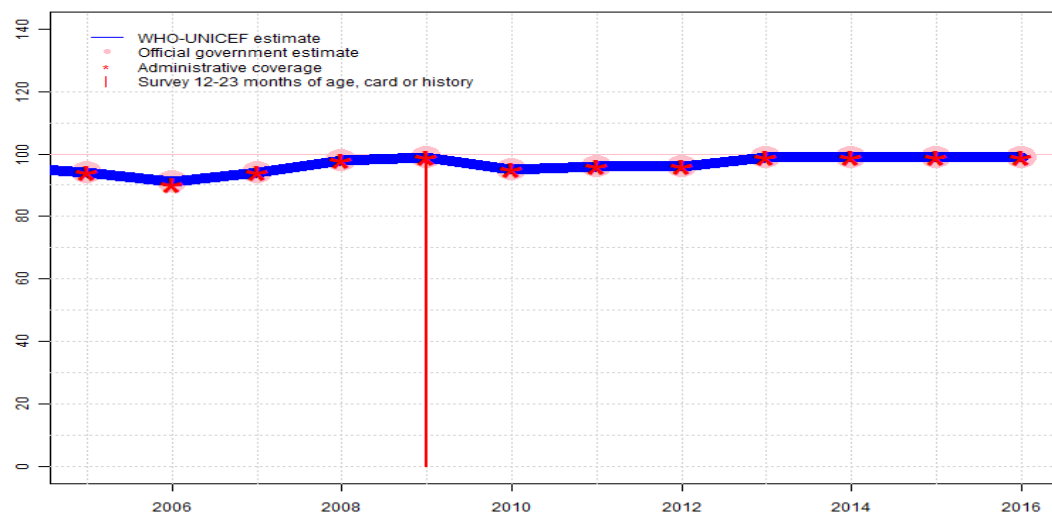
**PcV3:** percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect the percentage of surviving infants who received two doses of PcV prior to the 1st birthday.

**YFV:** percentage of surviving infants who received one dose of yellow fever vaccine in countries where YFV is part of the national immunization schedule for children or is recommended in at risk areas; coverage estimates are annualized for the entire cohort of surviving infants.

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# Armenia - BCG

ARM - BCG



## Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 100 percent based on 1 survey(s). GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2007: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2006: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: D-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	94	91	94	98	99	95	96	96	99	99	99	99
Estimate GoC	•	•	•	•	•••	•••	•••	••	••	••	••	••
Official	94	91	94	98	99	95	96	96	99	99	99	99
Administrative	94	90	94	98	99	95	96	96	99	99	99	99
Survey	NA	NA	NA	NA	100	NA	NA	NA	NA	NA	NA	NA

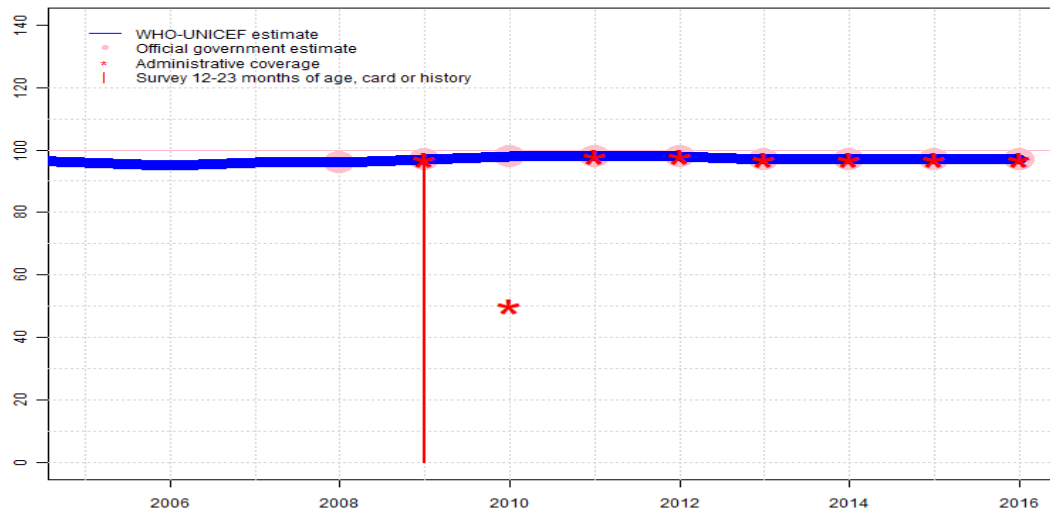
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Armenia - DTP1

ARM - DTP1



## Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. DTP-HepB-Hib vaccine was introduced in September 2009. Administrative data includes only DTP-HepB-Hib. Official estimate includes DTP as well. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+
- 2007: Estimate based on DTP3 coverage of 88. GoC=S+
- 2006: Estimate based on DTP3 coverage of 87. GoC=No accepted empirical data
- 2005: Estimate based on DTP3 coverage of 90. GoC=No accepted empirical data

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	96	95	96	96	97	98	98	98	97	97	97	97
Estimate GoC	•	•	••	••	•••	•	•••	••	••	•	••	••
Official	NA	NA	NA	96	97	98	98	98	97	97	97	97
Administrative	NA	NA	NA	NA	97	50	98	98	97	97	97	97
Survey	NA	NA	NA	NA	99	NA	NA	NA	NA	NA	NA	NA

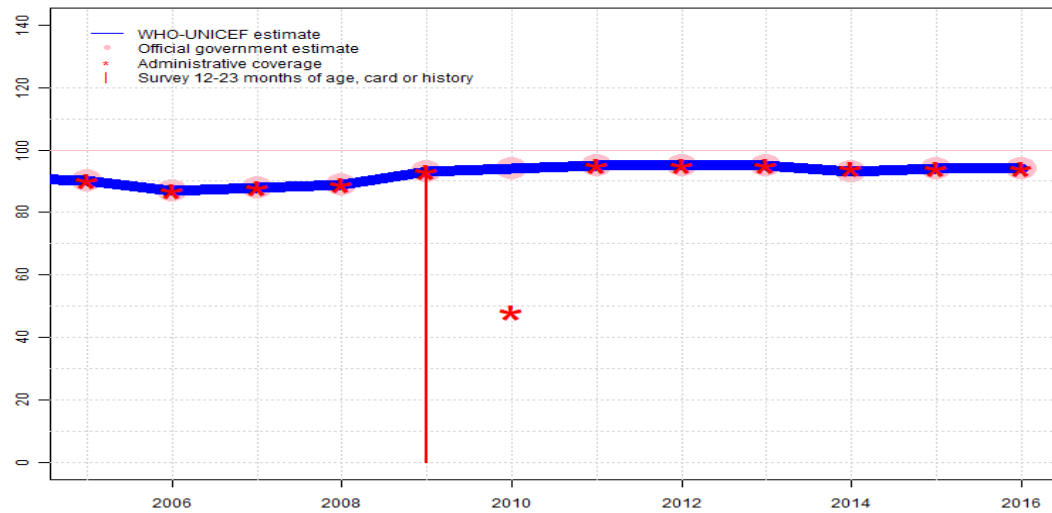
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Armenia - DTP3

ARM - DTP3



## Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. DTP-HepB-Hib vaccine was introduced in September 2009. Administrative data includes only DTP-HepB-Hib. Official estimate includes DTP as well. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Armenia Demographic and Health Survey 2010 card or history results of 95 percent modified for recall bias to 97 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 92 percent and 3d dose card only coverage of 90 percent. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2007: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2006: Estimate based on coverage reported by national government. GoC=R+ D+
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: D-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	90	87	88	89	93	94	95	95	95	93	94	94
Estimate GoC	•	••	•	•••	•••	•	•••	••	••	•	••	••
Official	90	87	88	89	93	94	95	95	95	93	94	94
Administrative	90	87	88	89	93	48	95	95	95	94	94	94
Survey	NA	NA	NA	NA	95	NA	NA	NA	NA	NA	NA	NA

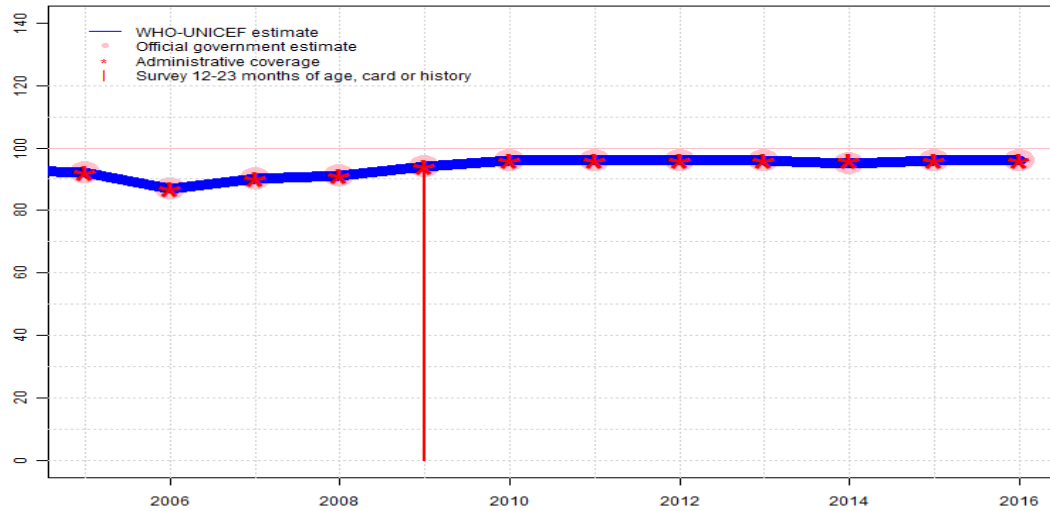
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Armenia - Pol3

ARM - Pol3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	92	87	90	91	94	96	96	96	96	95	96	96
Estimate GoC	•	••	•••	•••	•••	•••	•••	••	••	•	••	••
Official	92	87	90	91	94	96	96	96	96	95	96	96
Administrative	92	87	90	91	94	96	96	96	96	96	96	96
Survey	NA	NA	NA	NA	95	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.

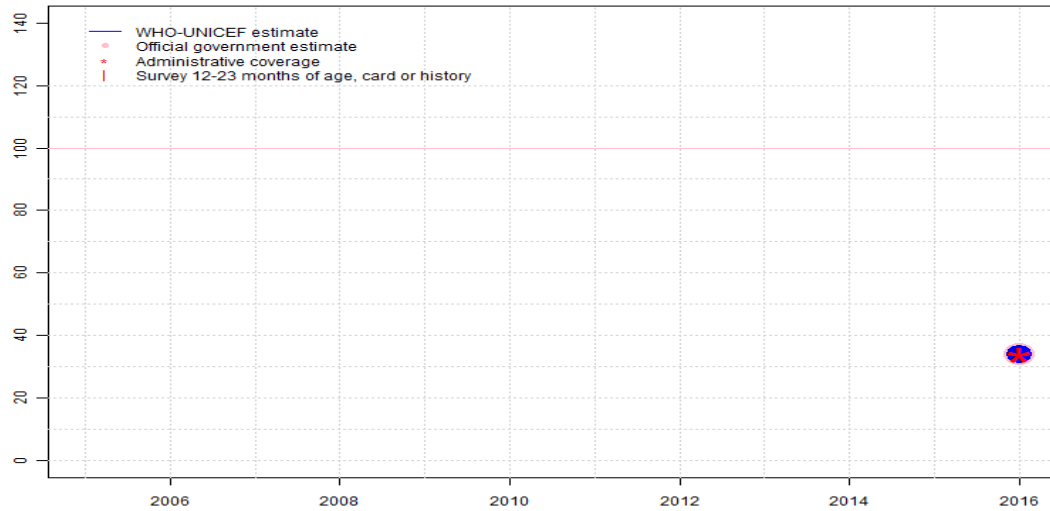
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Armenia Demographic and Health Survey 2010 card or history results of 95 percent modified for recall bias to 97 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 92 percent and 3d dose card only coverage of 90 percent. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2006: Estimate based on coverage reported by national government. GoC=R+ D+
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: D-

# Armenia - IPV1

ARM - IPV1



## Description:

2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34
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	34
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

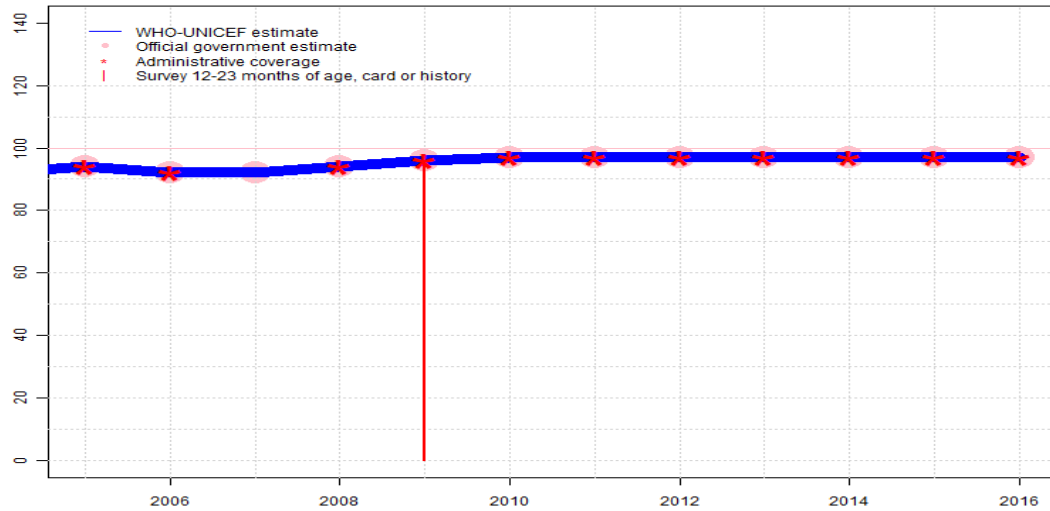
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Armenia - MCV1

ARM - MCV1



## Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2007: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2006: Estimate based on coverage reported by national government. GoC=R+ D+
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: D-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	94	92	92	94	96	97	97	97	97	97	97	97
Estimate GoC	•	••	•	•	•••	•••	•••	••	••	••	••	••
Official	94	92	92	94	96	97	97	97	97	97	97	97
Administrative	94	92	NA	94	96	97	97	97	97	97	97	97
Survey	NA	NA	NA	NA	95	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.

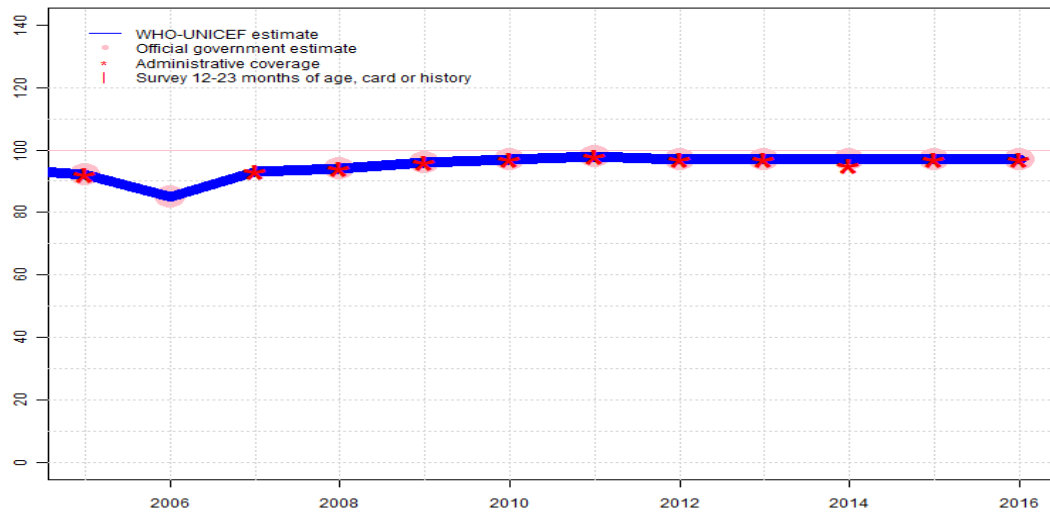
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk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



# Armenia - MCV2

ARM - MCV2



## Description:

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

2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+

2015: Estimate based on coverage reported by national government. GoC=R+ D+

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

2013: Estimate based on coverage reported by national government. Estimate challenged by: D-

2012: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2010: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2008: Estimate based on coverage reported by national government. Estimate challenged by: D-

2007: Estimate based on reported administrative estimate. Estimate challenged by: D-

2006: Estimate based on coverage reported by national government. GoC=R+

2005: Estimate based on coverage reported by national government. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	92	85	93	94	96	97	98	97	97	97	97	97
Estimate GoC	●●	●●	●	●	●	●	●	●	●	●●	●●	●●
Official	92	85	NA	94	96	97	98	97	97	97	97	97
Administrative	92	NA	93	94	96	97	98	97	97	95	97	97
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

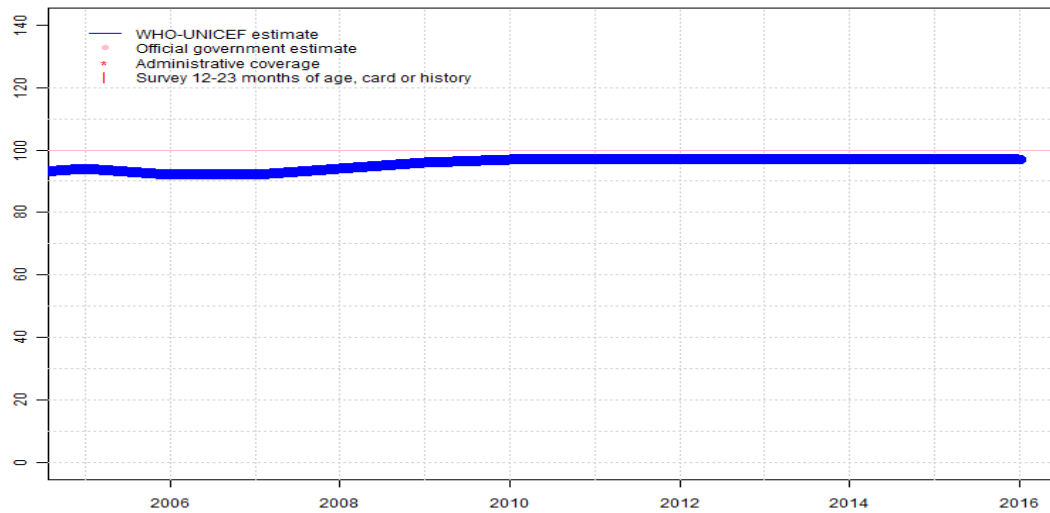
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Armenia - RCV1

ARM - RCV1



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	94	92	92	94	96	97	97	97	97	97	97	97
Estimate GoC	•	••	•	•	•••	•••	•••	••	••	••	••	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

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

2016: Estimate based on estimated MCV1. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+

2015: Estimate based on estimated MCV1. GoC=R+ D+

2014: Estimate based on estimated MCV1. GoC=R+ D+

2013: Estimate based on estimated MCV1. GoC=R+ D+

2012: Estimate based on estimated MCV1. GoC=R+ D+

2011: Estimate based on estimated MCV1. GoC=R+ S+ D+

2010: Estimate based on estimated MCV1. GoC=R+ S+ D+

2009: Estimate based on estimated MCV1. GoC=R+ S+ D+

2008: Estimate based on estimated MCV1. Estimate challenged by: D-

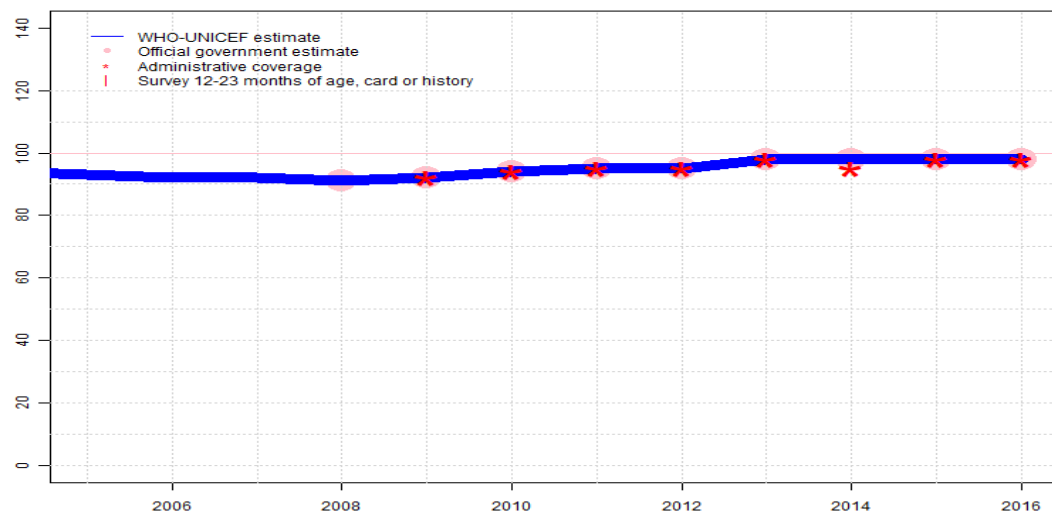
2007: Estimate based on estimated MCV1. Estimate challenged by: D-

2006: Estimate based on estimated MCV1. GoC=R+ D+

2005: Estimate based on estimated MCV1. Estimate challenged by: D-

# Armenia - HepBB

ARM - HepBB



## Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ D+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2009: Estimate based on coverage reported by national government. GoC=R+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+
- 2007: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2006: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2005: Estimate based on interpolation between reported values. GoC=No accepted empirical data

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	93	92	92	91	92	94	95	95	98	98	98	98
Estimate GoC	•	•	•	••	••	••	••	••	••	••	••	••
Official	NA	NA	NA	91	92	94	95	95	98	98	98	98
Administrative	NA	NA	NA	NA	92	94	95	95	98	95	98	98
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

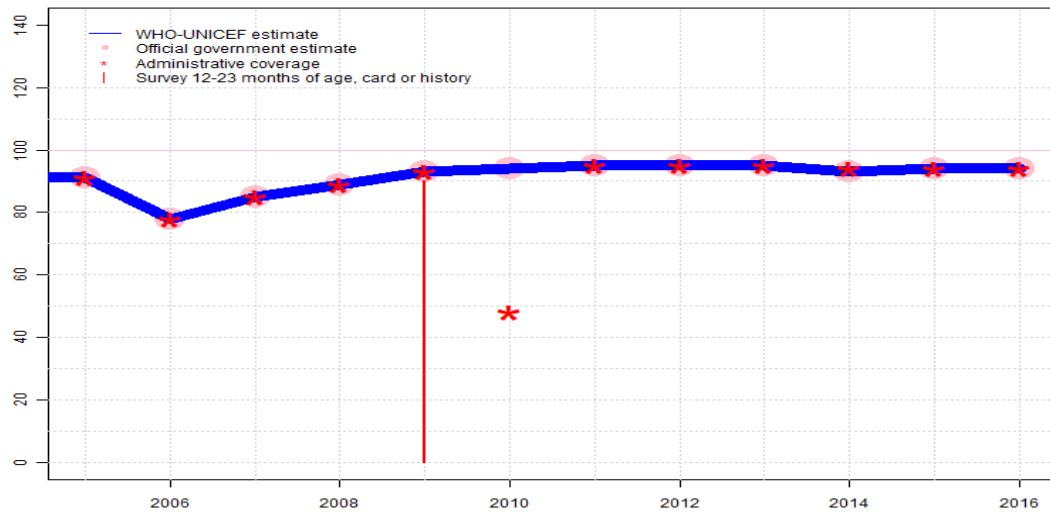
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Armenia - HepB3

ARM - HepB3



## Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. DTP-HepB-Hib vaccine was introduced in September 2009. Administrative data includes only DTP-HepB-Hib. Official estimate includes monovalent HepB3 as well. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 91 percent based on 1 survey(s). Armenia Demographic and Health Survey 2010 card or history results of 90 percent modified for recall bias to 91 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 92 percent and 3d dose card only coverage of 85 percent. GoC=R+ S+ D+
- 2008: Estimate based on reported data. GoC=R+ S+ D+
- 2007: Estimate based on reported data. GoC=R+ S+ D+
- 2006: Estimate based on reported data. GoC=R+ D+
- 2005: Estimate based on reported data. Estimate challenged by: D-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	91	78	85	89	93	94	95	95	95	93	94	94
Estimate GoC	•	••	•••	•••	•••	•	•••	••	••	•	••	••
Official	91	78	85	89	93	94	95	95	95	93	94	94
Administrative	91	78	85	89	93	48	95	95	95	94	94	94
Survey	NA	NA	NA	NA	90	NA	NA	NA	NA	NA	NA	NA

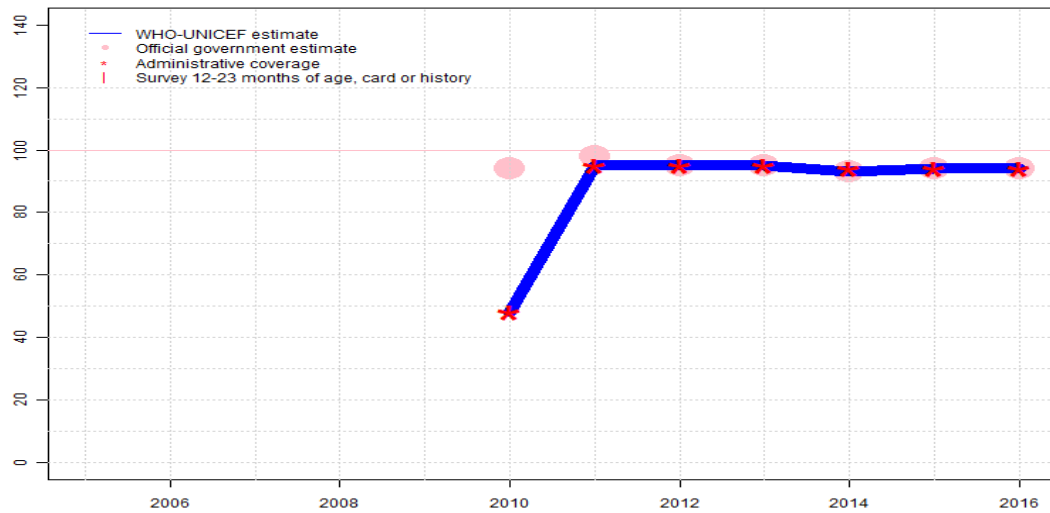
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Armenia - Hib3

ARM - Hib3



## Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on reported administrative estimate. DTP-HepB-Hib combination used, inconsistent reporting. GoC=R+ D+
- 2010: Estimate based on reported administrative estimate. DTP-HepB-Hib vaccine was introduced in September 2009. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	48	95	95	95	93	94	94
Estimate GoC	NA	NA	NA	NA	NA	••	••	••	••	•	••	••
Official	NA	NA	NA	NA	NA	94	98	95	95	93	94	94
Administrative	NA	NA	NA	NA	NA	48	95	95	95	94	94	94
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

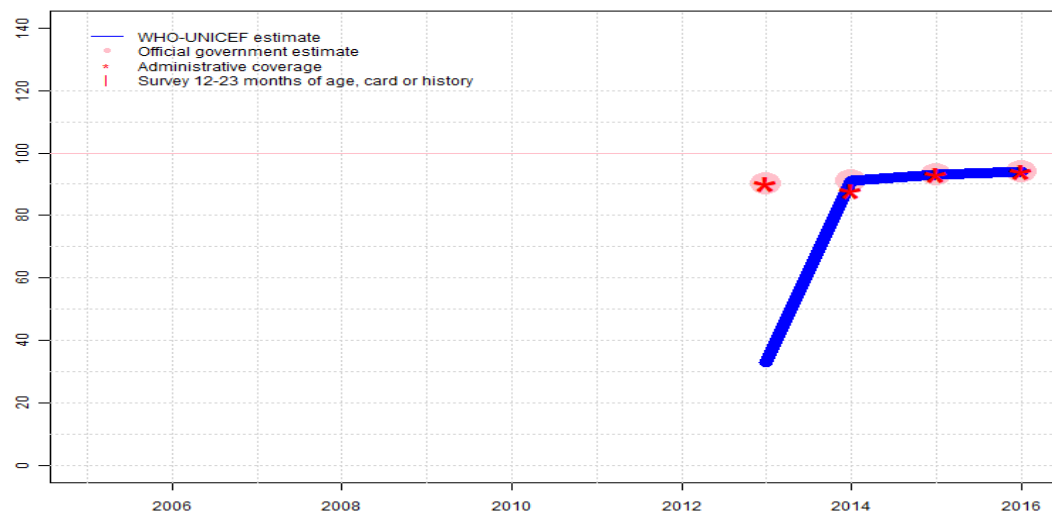
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 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.

# Armenia - RotaC

ARM - RotaC



## Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Rotavirus vaccine introduced in 2013. Ninety percent coverage attained in 36 percent of the national target population. Estimate is based on annualized coverage among national birth cohort. Estimate challenged by: R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	33	91	93	94
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	•	••	••	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	90	91	93	94
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	90	88	93	94
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

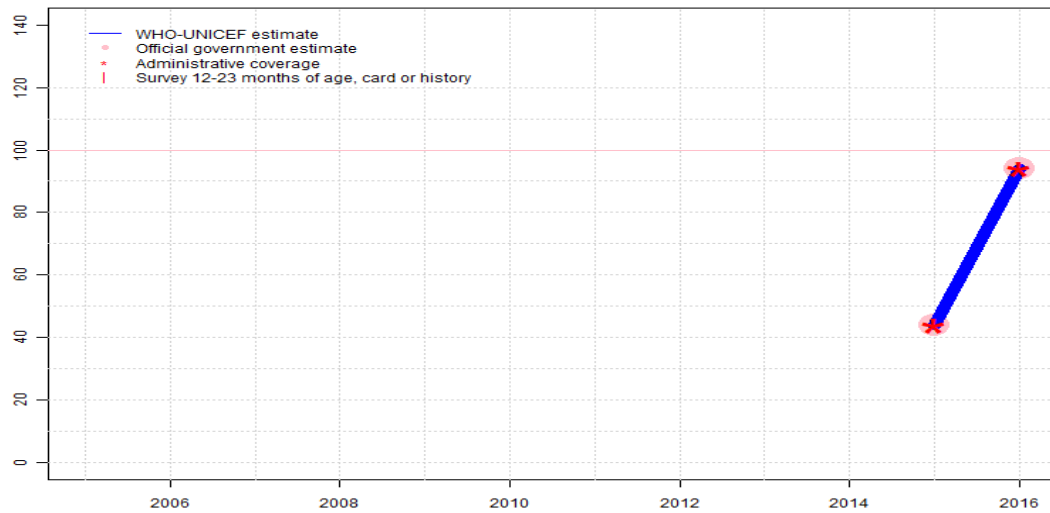
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 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.

# Armenia - PcV3

ARM - PcV3



## Description:

- 2016: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage and are aware of an ongoing Demographic and Health Survey. GoC=R+ D+
- 2015: Estimate based on coverage reported by national government. Pneumococcal conjugate vaccine introduced during 2014. Reporting started during 2015. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44	94
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	••	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44	94
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44	94
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 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.

# Armenia - survey details

## 2009 Armenia Demographic and Health Survey 2010

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <18 months	100	18-29 m	306	92
BCG	Card	92	18-29 m	306	92
BCG	Card or History	100	18-29 m	306	92
BCG	History	7	18-29 m	306	92
DTP1	C or H <18 months	98	18-29 m	306	92
DTP1	Card	92	18-29 m	306	92
DTP1	Card or History	99	18-29 m	306	92
DTP1	History	7	18-29 m	306	92
DTP3	C or H <18 months	92	18-29 m	306	92
DTP3	Card	90	18-29 m	306	92
DTP3	Card or History	95	18-29 m	306	92
DTP3	History	5	18-29 m	306	92
HepB1	C or H <18 months	98	18-29 m	306	92
HepB1	Card	92	18-29 m	306	92
HepB1	Card or History	98	18-29 m	306	92
HepB1	History	7	18-29 m	306	92
HepB3	C or H <18 months	88	18-29 m	306	92
HepB3	Card	85	18-29 m	306	92
HepB3	Card or History	90	18-29 m	306	92
HepB3	History	4	18-29 m	306	92
MCV1	C or H <18 months	93	18-29 m	306	92
MCV1	Card	88	18-29 m	306	92
MCV1	Card or History	95	18-29 m	306	92
MCV1	History	7	18-29 m	306	92
Pol1	C or H <18 months	99	18-29 m	306	92
Pol1	Card	92	18-29 m	306	92
Pol1	Card or History	99	18-29 m	306	92
Pol1	History	7	18-29 m	306	92
Pol3	C or H <18 months	93	18-29 m	306	92
Pol3	Card	90	18-29 m	306	92
Pol3	Card or History	95	18-29 m	306	92
Pol3	History	5	18-29 m	306	92

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	98	12-23 m	302	92
BCG	Card	90	12-23 m	302	92
BCG	Card or History	98	12-23 m	302	92
BCG	History	8	12-23 m	302	92
DTP1	C or H <12 months	87	12-23 m	302	92
DTP1	Card	87	12-23 m	302	92
DTP1	Card or History	94	12-23 m	302	92
DTP1	History	7	12-23 m	302	92
DTP3	C or H <12 months	45	12-23 m	302	92
DTP3	Card	68	12-23 m	302	92
DTP3	Card or History	71	12-23 m	302	92
DTP3	History	3	12-23 m	302	92
HepB1	C or H <12 months	97	12-23 m	302	92
HepB1	Card	90	12-23 m	302	92
HepB1	Card or History	98	12-23 m	302	92
HepB1	History	7	12-23 m	302	92
HepB3	C or H <12 months	66	12-23 m	302	92
HepB3	Card	72	12-23 m	302	92
HepB3	Card or History	75	12-23 m	302	92
HepB3	History	4	12-23 m	302	92
MCV1	C or H <12 months	3	12-23 m	302	92
MCV1	Card	69	12-23 m	302	92
MCV1	Card or History	72	12-23 m	302	92
MCV1	History	3	12-23 m	302	92
Pol1	C or H <12 months	93	12-23 m	302	92
Pol1	Card	90	12-23 m	302	92
Pol1	Card or History	98	12-23 m	302	92
Pol1	History	8	12-23 m	302	92
Pol3	C or H <12 months	42	12-23 m	302	92
Pol3	Card	72	12-23 m	302	92
Pol3	Card or History	77	12-23 m	302	92
Pol3	History	4	12-23 m	302	92

## 1999 Armenia Demographic and Health Survey 2000, 2001

## 2004 Armenia Demographic and Health Survey 2005

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	89	12-23 m	283	-
DTP1	Card	92	12-23 m	283	-



# Armenia - survey details

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DTP3	Card	88	12-23 m	283	-
MCV1	Card	73	12-23 m	283	-
Pol1	Card	93	12-23 m	283	-
Pol3	Card	91	12-23 m	283	-

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	96	15-26 m	2145	-
DTP3	Card or History	98	15-26 m	2145	-
MCV1	Card or History	87	15-26 m	2145	-
Pol3	Card or History	99	15-26 m	2145	-

1998 Evaluation of the National Immunization Program of the Republic of Armenia 1999

Further information and estimates for previous years are available at:

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

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