

**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.

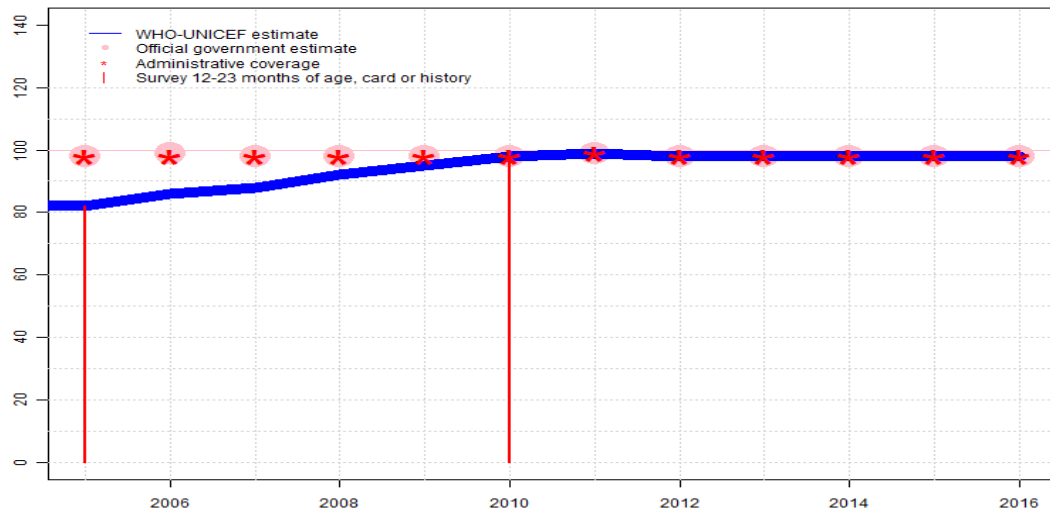
**PcV3:** percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

AZE - 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. Estimate challenged by: D-

2015: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2013: Estimate follows reported official government estimate. National programme revised target population estimates during 2013. GoC=Assigned by working group. .

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 set to level of survey. Estimate challenged by: D-

2009: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2008: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2007: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2006: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 82 percent based on 1 survey(s). Estimate challenged by: D-R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	82	86	88	92	95	98	99	98	98	98	98	98
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	98	99	98	98	98	98	99	98	98	98	98	98
Administrative	98	98	98	98	98	98	99	98	98	98	98	98
Survey	82	NA	NA	NA	NA	98	NA	NA	NA	NA	NA	NA

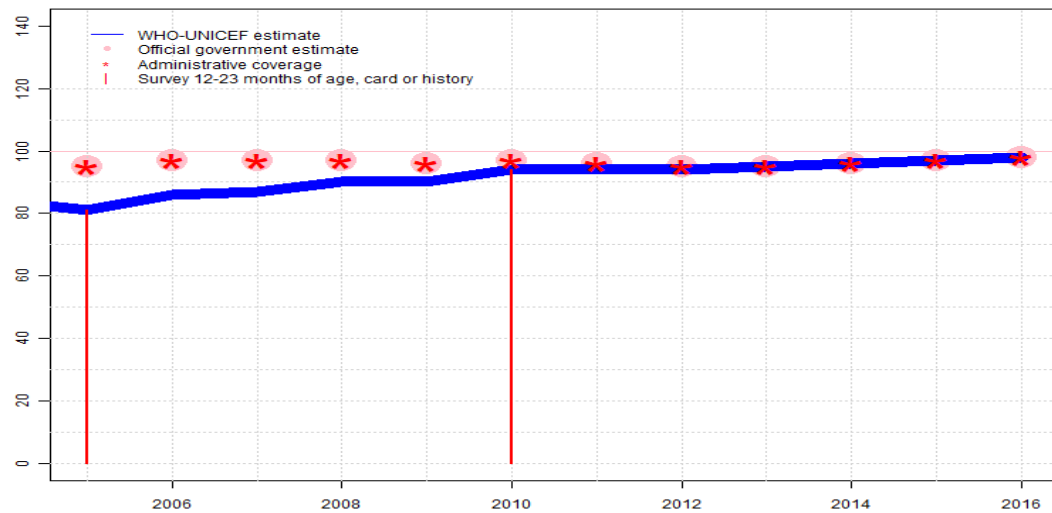
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Azerbaijan - DTP1

AZE - 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. Estimate challenged by: D-

2015: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2013: Estimate follows reported official government estimate. National programme revised target population estimates during 2013. Estimate challenged by: D-

2012: Reported data calibrated to 2010 and 2013 levels. Estimate challenged by: D-R-

2011: Reported data calibrated to 2010 and 2013 levels. Estimate challenged by: D-R-

2010: Estimate of 94 percent assigned by working group. Estimate set to level of survey. Estimate challenged by: D-R-

2009: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2008: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2007: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2006: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 81 percent based on 1 survey(s). Estimate challenged by: D-R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	81	86	87	90	90	94	94	94	95	96	97	98
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	95	97	97	97	96	97	96	95	95	96	97	98
Administrative	95	97	97	97	96	97	96	95	95	96	97	98
Survey	81	NA	NA	NA	NA	94	NA	NA	NA	NA	NA	NA

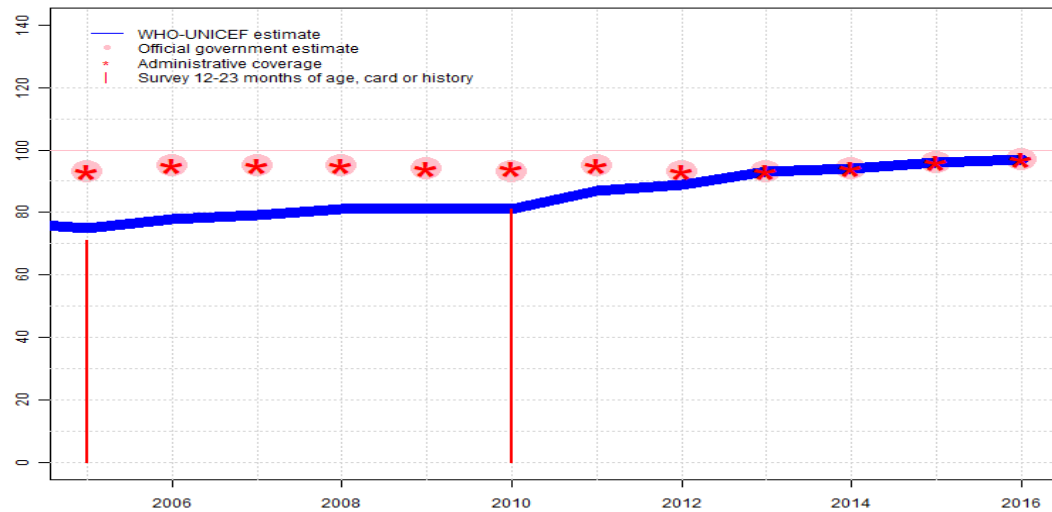
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Azerbaijan - DTP3

AZE - 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. Estimate challenged by: D-

2015: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2013: Estimate follows reported official government estimate. National programme revised target population estimates during 2013. Estimate challenged by: D-

2012: Reported data calibrated to 2010 and 2013 levels. Estimate challenged by: D-R-

2011: Reported data calibrated to 2010 and 2013 levels. Estimate challenged by: D-R-

2010: Estimate of 81 percent assigned by working group. Estimate set to level of survey. Estimate challenged by: D-R-

2009: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2008: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2007: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2006: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: R-

2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 75 percent based on 1 survey(s). Azerbaijan Demographic and Health Survey 2006 card or history results of 71 percent modified for recall bias to 75 percent based on 1st dose card or history coverage of 81 percent, 1st dose card only coverage of 71 percent and 3d dose card only coverage of 66 percent. Estimate challenged by: R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	75	78	79	81	81	81	87	89	93	94	96	97
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	93	95	95	95	94	93	95	93	93	94	96	97
Administrative	93	95	95	95	94	94	95	93	93	94	96	97
Survey	71	NA	NA	NA	NA	81	NA	NA	NA	NA	NA	NA

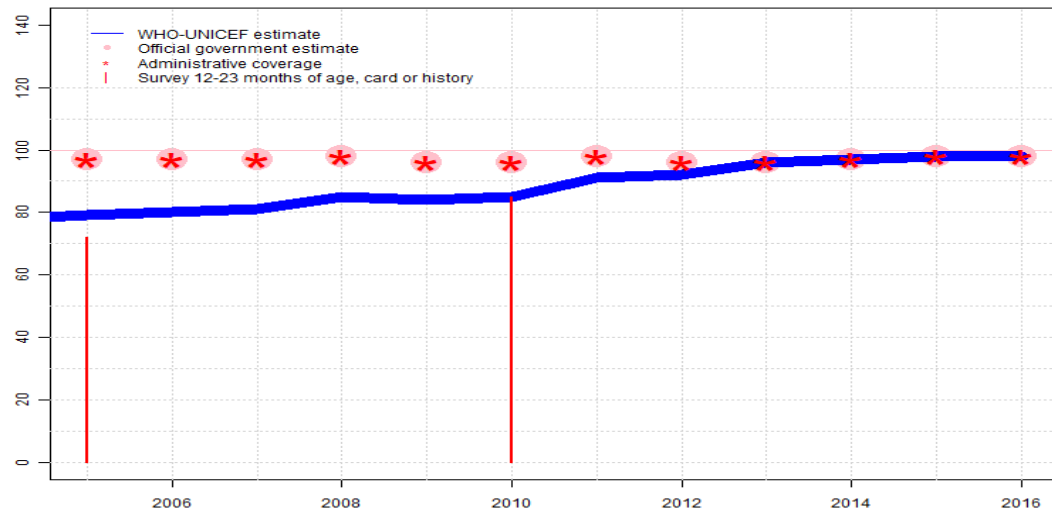
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Azerbaijan - Pol3

AZE - Pol3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	79	80	81	85	84	85	91	92	96	97	98	98
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	97	97	97	98	96	96	98	96	96	97	98	98
Administrative	97	97	97	98	96	96	98	96	96	97	98	98
Survey	72	NA	NA	NA	NA	85	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. Estimate challenged by: D-

2015: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2013: Estimate follows reported official government estimate. National programme revised target population estimates during 2013. Estimate challenged by: D-

2012: Reported data calibrated to 2010 and 2013 levels. Estimate challenged by: D-R-

2011: Reported data calibrated to 2010 and 2013 levels. Estimate challenged by: D-R-

2010: Estimate of 85 percent assigned by working group. Estimate set to level of survey. Estimate challenged by: D-R-

2009: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2008: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

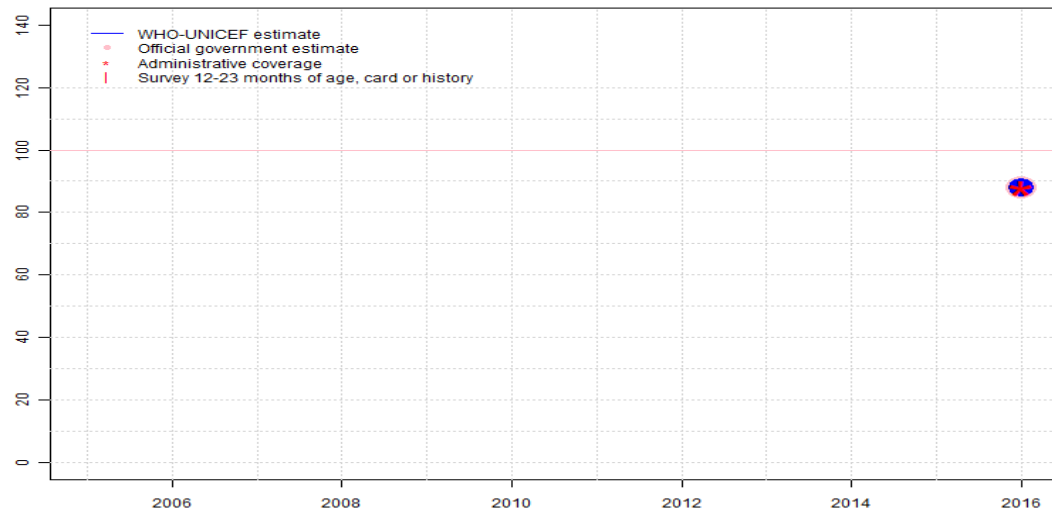
2007: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2006: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: R-

2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 79 percent based on 1 survey(s). Azerbaijan Demographic and Health Survey 2006 card or history results of 72 percent modified for recall bias to 79 percent based on 1st dose card or history coverage of 82 percent, 1st dose card only coverage of 71 percent and 3d dose card only coverage of 68 percent. Estimate challenged by: R-

# Azerbaijan - IPV1

AZE - 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. Inactivated polio vaccine introduced during 2016. Estimate challenged by: 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	88
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	88
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	88
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

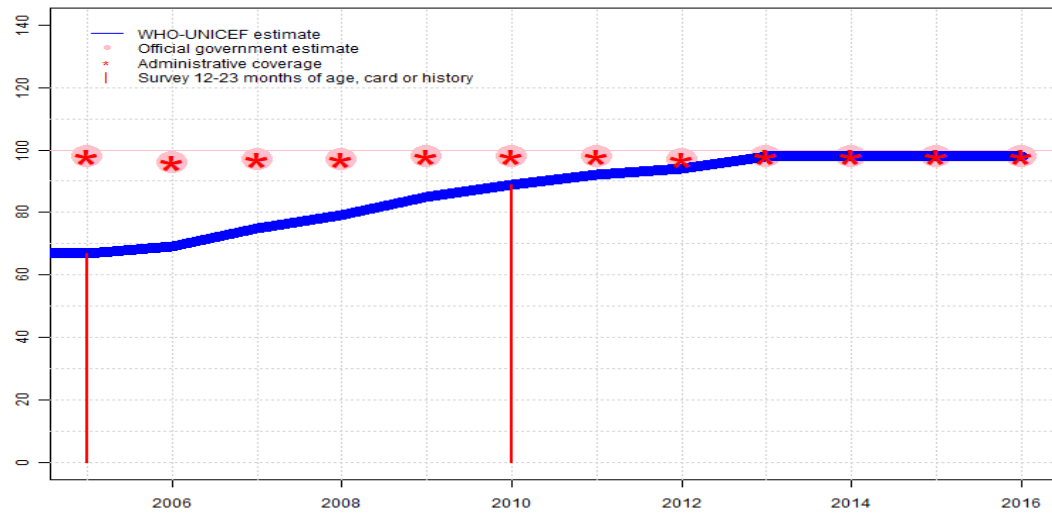
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Azerbaijan - MCV1

AZE - 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. Estimate challenged by: D-

2015: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2013: Estimate follows reported official government estimate. National programme revised target population estimates during 2013. Estimate challenged by: D-

2012: Reported data calibrated to 2010 and 2013 levels. Estimate challenged by: D-R-

2011: Reported data calibrated to 2010 and 2013 levels. Estimate challenged by: D-R-

2010: Estimate of 89 percent assigned by working group. Estimate set to level of survey. Estimate challenged by: D-R-

2009: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2008: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: R-

2007: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: R-

2006: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: R-

2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 67 percent based on 1 survey(s). Estimate challenged by: R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	67	69	75	79	85	89	92	94	98	98	98	98
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	98	96	97	97	98	98	98	97	98	98	98	98
Administrative	98	96	97	97	98	98	98	97	98	98	98	98
Survey	67	NA	NA	NA	NA	89	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.

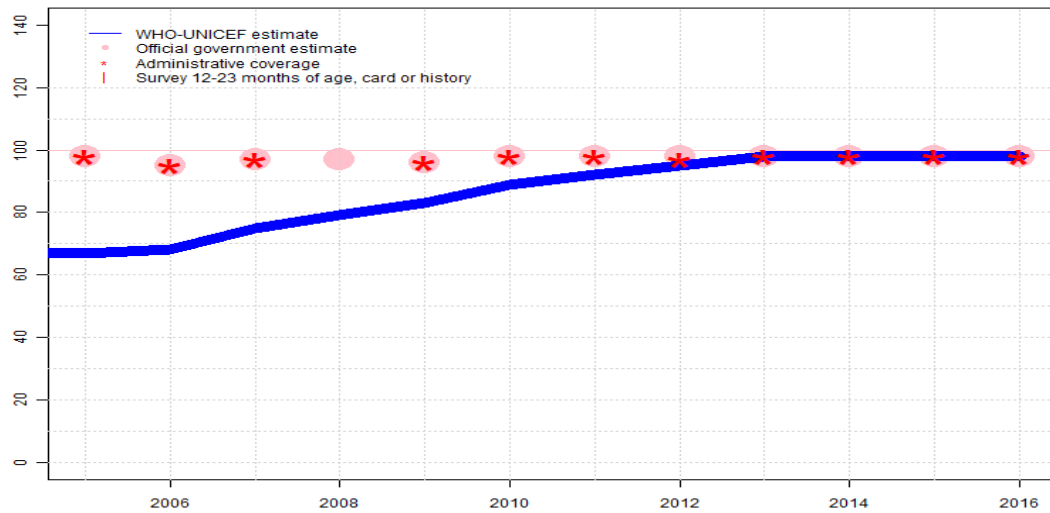
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk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



# Azerbaijan - MCV2

AZE - MCV2



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	67	68	75	79	83	89	92	95	98	98	98	98
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	98	95	97	97	96	98	98	98	98	98	98	98
Administrative	98	95	97	NA	96	98	98	97	98	98	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.

## 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. Estimate challenged by: D-

2015: Estimate based on coverage reported by national government. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. Estimate challenged by: D-  
2013: Estimate follows reported official government estimate. National programme revised target population estimates during 2013. Estimate challenged by: D-

2012: Estimate of 95 percent assigned by working group. Estimated coverage follows the reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-

2011: Estimate of 92 percent assigned by working group. Estimated coverage follows the reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-

2010: Estimate of 89 percent assigned by working group. Estimated coverage follows the reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-

2009: Estimate of 83 percent assigned by working group. Estimated coverage follows the reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-

2008: Estimate of 79 percent assigned by working group. Estimated coverage follows the reported data calibrated based on MCV adjustment factor. Estimate challenged by: R-

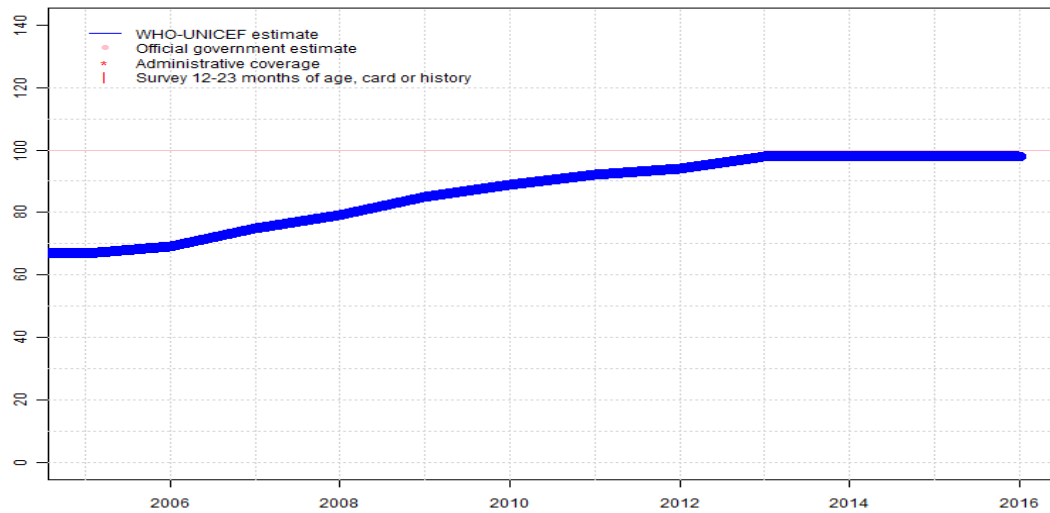
2007: Estimate of 75 percent assigned by working group. Estimated coverage follows the reported data calibrated based on MCV adjustment factor. Estimate challenged by: D-R-

2006: Estimate of 68 percent assigned by working group. Estimated coverage follows the reported data calibrated based on MCV adjustment factor. Estimate challenged by: R-

2005: Estimate of 67 percent assigned by working group. Estimated coverage follows the reported data calibrated based on MCV adjustment factor. Estimate challenged by: R-

# Azerbaijan - RCV1

AZE - RCV1



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	67	69	75	79	85	89	92	94	98	98	98	98
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.

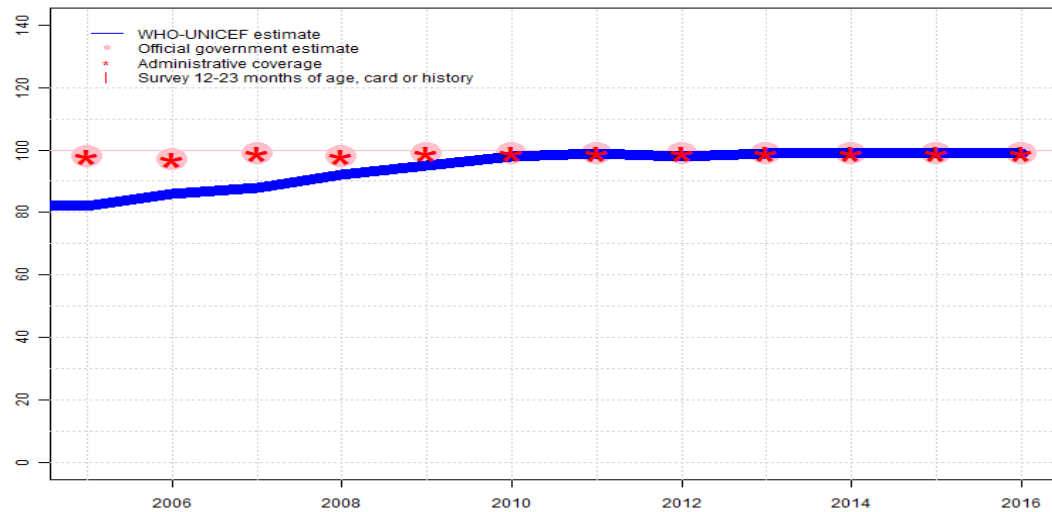
## Description:

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. Estimate challenged by: D-
- 2015: Estimate based on estimated MCV1. Estimate challenged by: D-
- 2014: Estimate based on estimated MCV1. Estimate challenged by: D-
- 2013: Estimate based on estimated MCV1. National programme revised target population estimates during 2013. Estimate challenged by: D-
- 2012: Estimate based on estimated MCV1. Estimate challenged by: D-R-
- 2011: Estimate based on estimated MCV1. Estimate challenged by: D-R-
- 2010: Estimate based on estimated MCV1. Estimate challenged by: D-R-
- 2009: Estimate based on estimated MCV1. Estimate challenged by: D-R-
- 2008: Estimate based on estimated MCV1. Estimate challenged by: R-
- 2007: Estimate based on estimated MCV1. Estimate challenged by: R-
- 2006: Estimate based on estimated MCV1. Estimate challenged by: R-
- 2005: Estimate based on estimated MCV1. Estimate challenged by: R-

# Azerbaijan - HepBB

AZE - HepBB



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	82	86	88	92	95	98	99	98	99	99	99	99
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	98	97	99	98	99	99	99	99	99	99	99	99
Administrative	98	97	99	98	99	99	99	99	99	99	99	99
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.

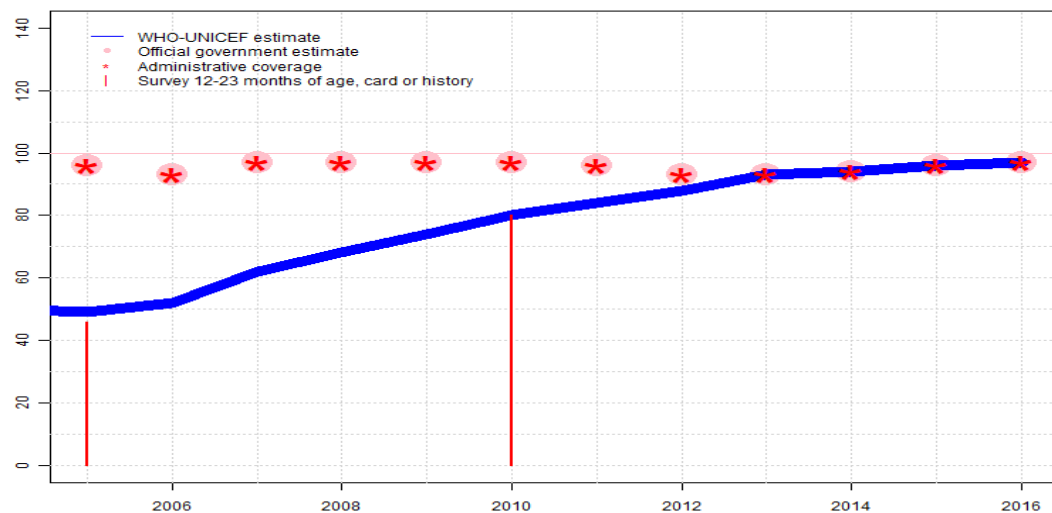
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 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. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate follows reported official government estimate. National programme revised target population estimates during 2013. Estimate challenged by: D-
- 2012: Estimate of 98 percent assigned by working group. Estimated coverage follows the level of BCG. Estimate challenged by: D-R-
- 2011: Estimated coverage follows the level of BCG. Estimate challenged by: D-
- 2010: Estimate of 98 percent assigned by working group. Estimated coverage follows the level of BCG. Estimate challenged by: D-R-
- 2009: Estimate of 95 percent assigned by working group. Estimated coverage follows the level of BCG. Estimate challenged by: D-R-
- 2008: Estimate of 92 percent assigned by working group. Estimated coverage follows the level of BCG. Estimate challenged by: D-R-
- 2007: Estimate of 88 percent assigned by working group. Estimated coverage follows the level of BCG. Estimate challenged by: D-R-
- 2006: Estimate of 86 percent assigned by working group. Estimated coverage follows the level of BCG. Estimate challenged by: D-R-
- 2005: Estimate of 82 percent assigned by working group. Estimated coverage follows the level of BCG. Estimate challenged by: D-R-

# Azerbaijan - HepB3

AZE - HepB3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	49	52	62	68	74	80	84	88	93	94	96	97
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	96	93	97	97	97	97	96	93	93	94	96	97
Administrative	96	93	97	97	97	97	96	93	93	94	96	97
Survey	46	NA	NA	NA	NA	80	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. Estimate challenged by: D-

2015: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2013: Estimate follows reported official government estimate. National programme revised target population estimates during 2013. Estimate challenged by: D-

2012: Reported data calibrated to 2010 and 2013 levels. Estimate challenged by: D-R-

2011: Reported data calibrated to 2010 and 2013 levels. Estimate challenged by: D-R-

2010: Estimate of 80 percent assigned by working group. Estimate set to level of survey. Estimate challenged by: R-

2009: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: R-

2008: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: R-S-

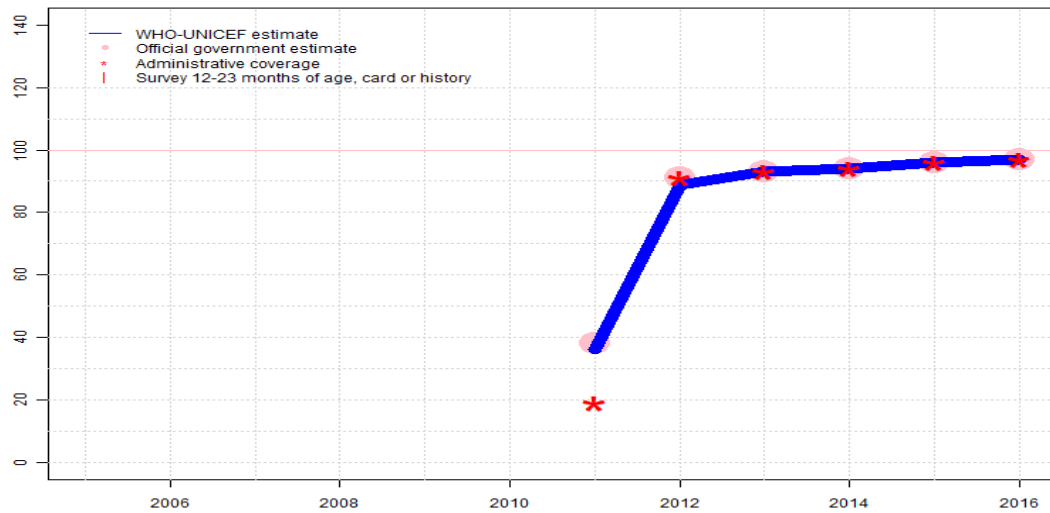
2007: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: R-S-

2006: Reported data calibrated to 2005 and 2010 levels. Estimate challenged by: D-R-

2005: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 49 percent based on 1 survey(s). Azerbaijan Demographic and Health Survey 2006 card or history results of 46 percent modified for recall bias to 49 percent based on 1st dose card or history coverage of 71 percent, 1st dose card only coverage of 64 percent and 3d dose card only coverage of 44 percent. Estimate challenged by: D-R-

# Azerbaijan - Hib3

AZE - 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. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate follows reported official government estimate National programme revised target population estimates during 2013. Estimate challenged by: D-
- 2012: Estimate of 89 percent assigned by working group. Vaccine presentation is DTP-HepB-Hib pentavalent. Estimate is set to level of DTP3 coverage. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2012 levels. Hib vaccine introduced in 2011. The presentation is DTP-HepB-Hib. Estimate challenged by: D-R-

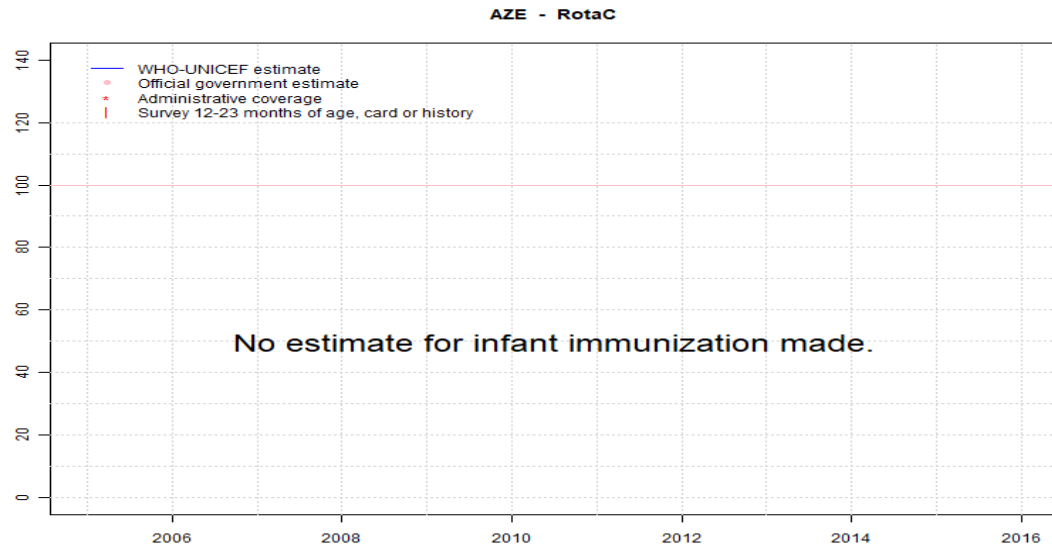
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	36	89	93	94	96	97
Estimate GoC	NA	NA	NA	NA	NA	NA	●	●	●	●	●	●
Official	NA	NA	NA	NA	NA	NA	38	91	93	94	96	97
Administrative	NA	NA	NA	NA	NA	NA	19	91	93	94	96	97
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

# Azerbaijan - RotaC



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
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

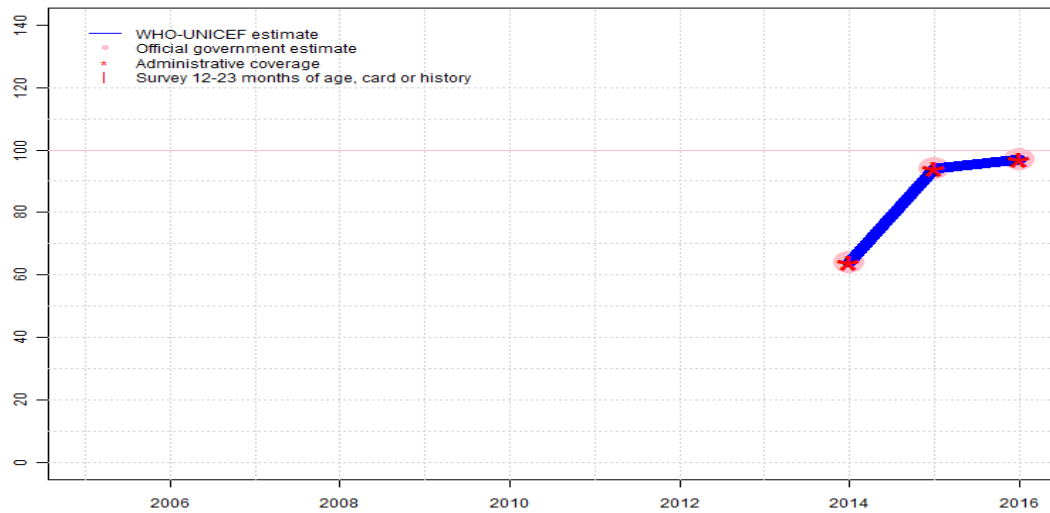
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

# Azerbaijan - PcV3

AZE - 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. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government. GoC=Assigned by working group. Consistency with other vaccines during an introduction year.
- 2014: Estimate based on coverage reported by national government. Pneumococcal conjugate vaccine introduced during 2013. Reporting started during 2014. 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	64	94	97
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	••	•	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	64	94	97
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	64	94	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.

# Azerbaijan - survey details

## 2010 Azerbaijan Demographic and Health Survey 2011

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	98	18-29 m	480	98
DTP1	Card or History	94	18-29 m	480	98
DTP3	Card or History	81	18-29 m	480	98
HepB1	Card or History	95	18-29 m	480	98
HepB3	Card or History	80	18-29 m	480	98
MCV1	Card or History	89	18-29 m	480	98
Pol1	Card or History	95	18-29 m	480	98
Pol3	Card or History	85	18-29 m	480	98

## 2005 Azerbaijan Demographic and Health Survey 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <18 months	80	18-29 m	467	72
BCG	Card	68	18-29 m	467	72
BCG	Card or History	82	18-29 m	467	72
BCG	History	14	18-29 m	467	72
DTP1	C or H <18 months	80	18-29 m	467	72
DTP1	Card	71	18-29 m	467	72
DTP1	Card or History	81	18-29 m	467	72
DTP1	History	10	18-29 m	467	72
DTP3	C or H <18 months	65	18-29 m	467	72
DTP3	Card	66	18-29 m	467	72
DTP3	Card or History	71	18-29 m	467	72
DTP3	History	5	18-29 m	467	72
HepB1	C or H <18 months	71	18-29 m	467	72

HepB1	Card	64	18-29 m	467	72
HepB1	Card or History	71	18-29 m	467	72
HepB1	History	7	18-29 m	467	72
HepB3	C or H <18 months	44	18-29 m	467	72
HepB3	Card	44	18-29 m	467	72
HepB3	Card or History	46	18-29 m	467	72
HepB3	History	1	18-29 m	467	72
MCV1	C or H <18 months	61	18-29 m	467	72
MCV1	Card	58	18-29 m	467	72
MCV1	Card or History	67	18-29 m	467	72
MCV1	History	9	18-29 m	467	72
Pol1	C or H <18 months	81	18-29 m	467	72
Pol1	Card	71	18-29 m	467	72
Pol1	Card or History	82	18-29 m	467	72
Pol1	History	11	18-29 m	467	72
Pol3	C or H <18 months	68	18-29 m	467	72
Pol3	Card	68	18-29 m	467	72
Pol3	Card or History	72	18-29 m	467	72
Pol3	History	4	18-29 m	467	72

## 1998 National Immunization Programme Evaluation Azerbaijan, 1999

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	95	15-26 m	2145	-
DTP3	Card or History	94	15-26 m	2145	-
MCV1	Card or History	88	15-26 m	2145	-
Pol3	Card or History	97	15-26 m	2145	-

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)