

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.

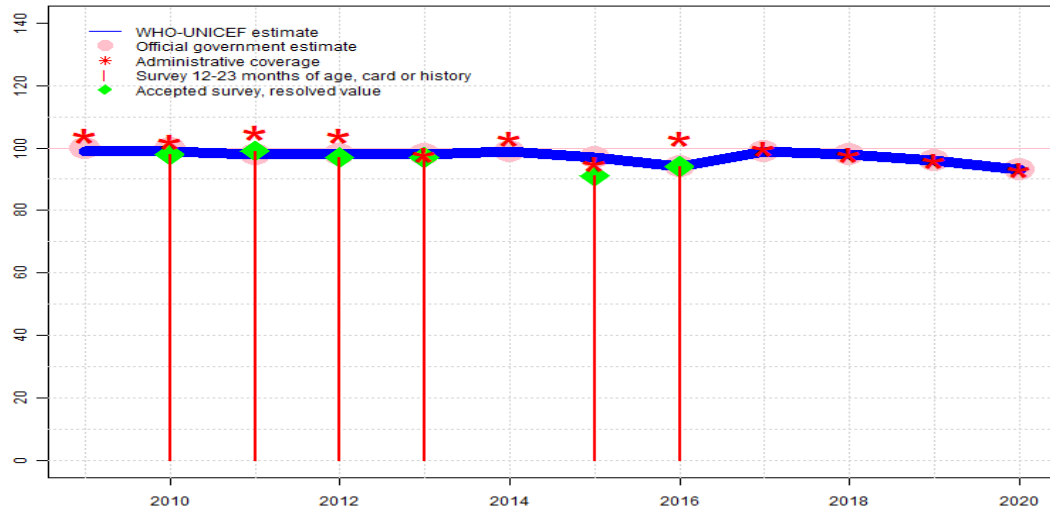
PcV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

GHA - BCG



Description:

- 2020: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2019: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2018: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2017: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2016: Estimate based on coverage reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). Official estimate based on 2017 EPI coverage survey results. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government supported by survey. Survey evidence of 91 percent based on 1 survey(s). Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Estimate challenged by: D-
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 99 | 99 | 98 | 98 | 98 | 99 | 97 | 94 | 99 | 98 | 96 | 93 |
| Estimate GoC | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Official | 100 | 100 | 98 | 98 | 98 | 99 | 97 | 94 | 99 | 98 | 96 | 93 |
| Administrative | 104 | 102 | 105 | 104 | 98 | 103 | 95 | 103 | 100 | 98 | 96 | 93 |
| Survey | NA | 98 | 99 | 97 | 97 | NA | 91 | 94 | NA | NA | NA | NA |

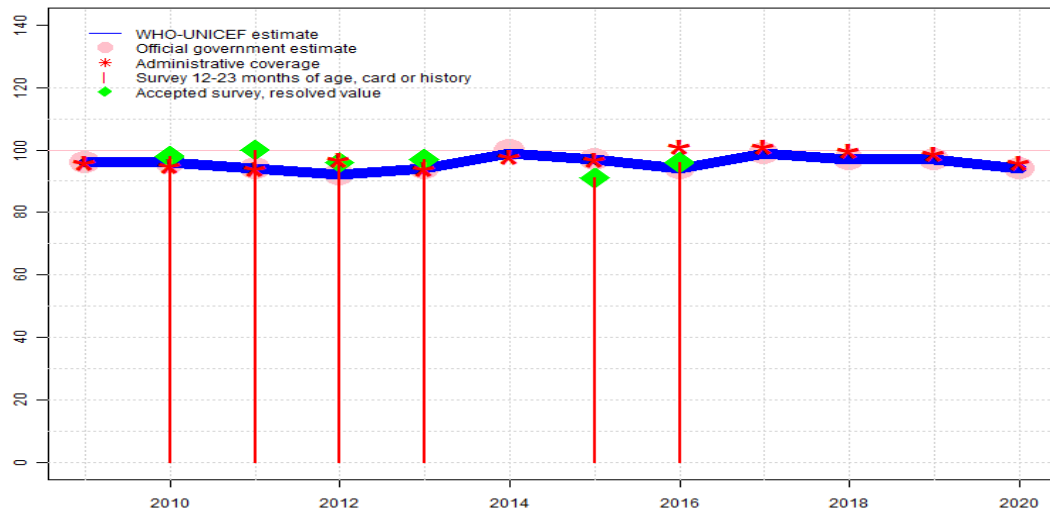
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2020 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.

Ghana - DTP1

GHA - DTP1



| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 96 | 96 | 94 | 92 | 94 | 99 | 97 | 94 | 99 | 97 | 97 | 94 |
| Estimate GoC | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Official | 96 | 96 | 94 | 92 | 94 | 100 | 97 | 94 | 99 | 97 | 97 | 94 |
| Administrative | 96 | 95 | 94 | 97 | 94 | 98 | 97 | 101 | 101 | 100 | 99 | 96 |
| Survey | NA | 98 | 100 | 96 | 97 | NA | 91 | 96 | NA | NA | NA | NA |

Description:

2020: Estimate based on coverage reported by national government. Estimate challenged by: D-
 2019: Estimate based on coverage reported by national government. Estimate challenged by: D-
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 2016: Estimate based on coverage reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Official estimate based on 2017 EPI coverage survey results. Estimate challenged by: D-
 2015: Estimate based on coverage reported by national government supported by survey. Survey evidence of 91 percent based on 1 survey(s). Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-
 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Estimate challenged by: D-
 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Estimate challenged by: D-
 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 100 percent based on 1 survey(s). Estimate challenged by: D-
 2010: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). Estimate challenged by: D-
 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

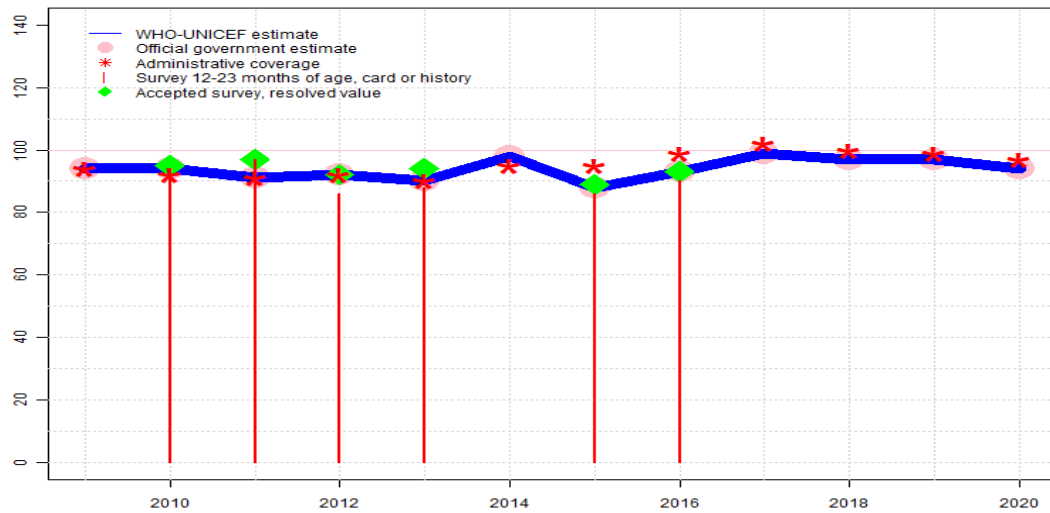
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

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

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Ghana - DTP3

GHA - DTP3



| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 94 | 94 | 91 | 92 | 90 | 98 | 88 | 93 | 99 | 97 | 97 | 94 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 94 | 94 | 91 | 92 | 90 | 98 | 88 | 93 | 99 | 97 | 97 | 94 |
| Administrative | 94 | 92 | 91 | 92 | 90 | 95 | 95 | 99 | 102 | 100 | 99 | 97 |
| Survey | NA | 93 | 97 | 86 | 88 | NA | 86 | 90 | 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: 2020 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.
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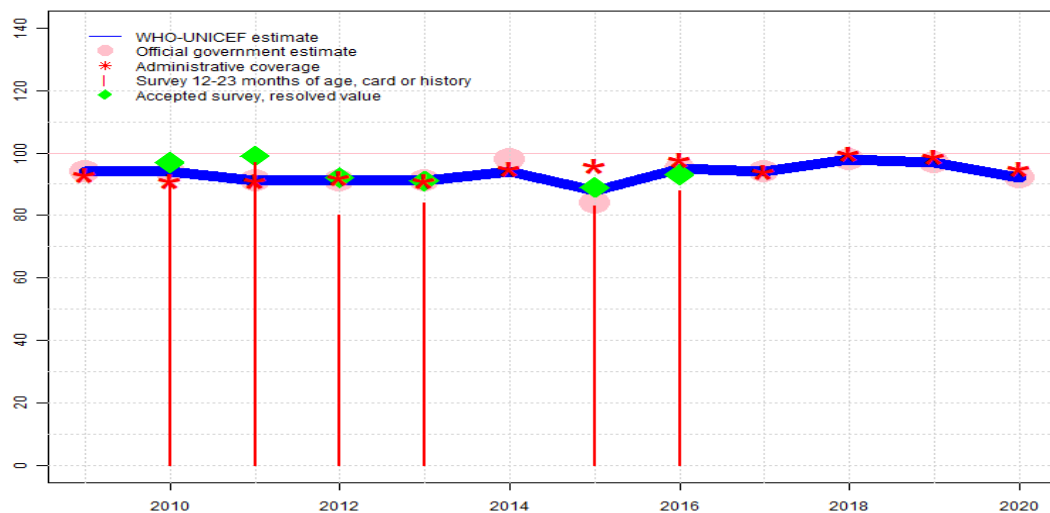
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Description:

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- 2018: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2017: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2016: Estimate based on coverage reported by national government supported by survey. Survey evidence of 93 percent based on 1 survey(s). Ghana Multiple Indicator Cluster Survey 2017-18 card or history results of 90 percent modified for recall bias to 93 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 88 percent and 3rd dose card only coverage of 85 percent. Official estimate based on 2017 EPI coverage survey results. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Ghana Multiple Indicator Cluster Survey 2017-18 card or history results of 86 percent modified for recall bias to 89 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 80 percent and 3rd dose card only coverage of 78 percent. Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). Ghana Demographic and Health Survey, 2014 card or history results of 88 percent modified for recall bias to 94 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 87 percent and 3rd dose card only coverage of 84 percent. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Ghana Demographic and Health Survey, 2014 card or history results of 86 percent modified for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 79 percent and 3rd dose card only coverage of 76 percent. Estimate challenged by: D-
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Ghana Multiple Indicator Cluster Survey with an Enhanced Malaria Module and Biomarker 2011 card or history results of 93 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 88 percent and 3rd dose card only coverage of 85 percent. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

Ghana - Pol3

GHA - Pol3



| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 94 | 94 | 91 | 91 | 91 | 94 | 88 | 95 | 94 | 98 | 97 | 92 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 94 | 94 | 91 | 91 | 91 | 98 | 84 | 95 | 94 | 98 | 97 | 92 |
| Administrative | 93 | 91 | 91 | 92 | 91 | 95 | 96 | 98 | 94 | 100 | 99 | 95 |
| Survey | NA | 91 | 97 | 80 | 84 | NA | 83 | 88 | 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: 2020 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.
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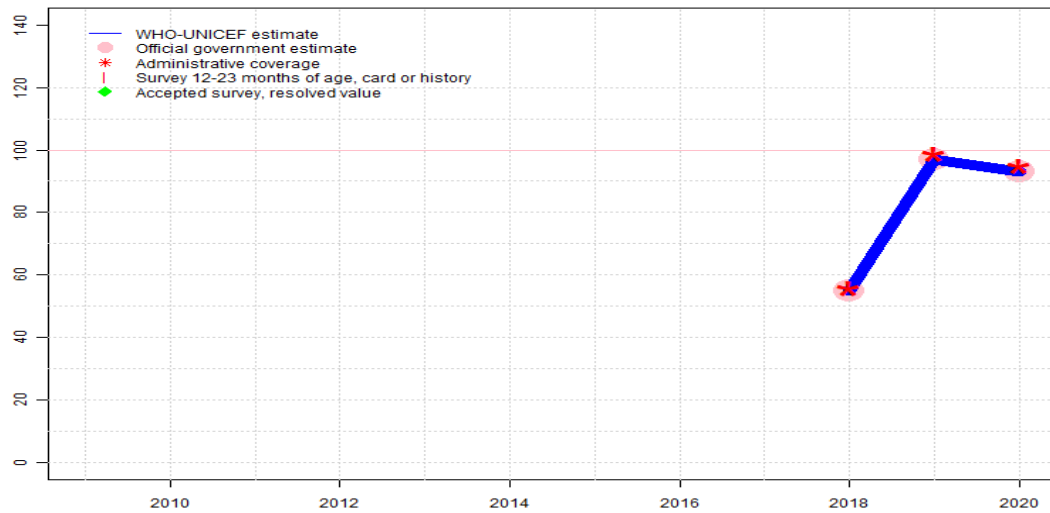
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2020: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2019: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2018: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2017: Estimate based on coverage reported by national government. Programme reports stock-out of 3 months. Estimate challenged by: D-
- 2016: Estimate based on reported data. Ghana Multiple Indicator Cluster Survey 2017-18 card or history results of 88 percent modified for recall bias to 93 percent based on 1st dose card or history coverage of 95 percent, 1st dose card only coverage of 87 percent and 3rd dose card only coverage of 85 percent. Official estimate based on 2017 EPI coverage survey results. Estimate challenged by: D-
- 2015: Estimate of 88 percent assigned by working group. Estimate based on reported DTP3 coverage level. Ghana Multiple Indicator Cluster Survey 2017-18 card or history results of 83 percent modified for recall bias to 89 percent based on 1st dose card or history coverage of 90 percent, 1st dose card only coverage of 79 percent and 3rd dose card only coverage of 78 percent. Reported data excluded due to decline in reported coverage from 98 percent to 84 percent with increase to 95 percent. Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-R-
- 2014: Reported data calibrated to 2013 and 2015 levels. Estimate challenged by: D-R-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 91 percent based on 1 survey(s). Ghana Demographic and Health Survey, 2014 card or history results of 84 percent modified for recall bias to 91 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 88 percent and 3rd dose card only coverage of 83 percent. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Ghana Demographic and Health Survey, 2014 card or history results of 80 percent modified for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 79 percent and 3rd dose card only coverage of 76 percent. Estimate challenged by: D-
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Ghana EPI Cluster Survey 2012 card or history results of 97 percent modified for recall bias to 99 percent based on 1st dose card or history coverage of 100 percent, 1st dose card only coverage of 98 percent and 3rd dose card only coverage of 97 percent. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Ghana Multiple Indicator Cluster Survey with an Enhanced Malaria Module and Biomarker 2011 card or history results of 91 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 87 percent and 3rd dose card only coverage of 85 percent. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

Ghana - IPV1

GHA - IPV1



Description:

Estimates for a dose of inactivated polio vaccine (IPV) begin in 2015 following the Global Polio Eradication Initiative's Polio Eradication and Endgame Strategic Plan: 2013-2018 which recommended at least one full dose or two fractional doses of IPV into routine immunization schedules as a strategy to mitigate the potential consequences should any re-emergence of type 2 poliovirus occur following the planned withdrawal of Sabin type 2 strains from oral polio vaccine (OPV).

2020: Estimate based on coverage reported by national government. Estimate challenged by: D-
 2019: Estimate based on coverage reported by national government. . Estimate challenged by: D-

2018: Estimate based on coverage reported by national government. Inactivated polio vaccine introduced during 2018. Estimate challenged by: D-

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA | NA | NA | NA | NA | NA | NA | NA | NA | 55 | 97 | 93 |
| Estimate GoC | NA | NA | NA | NA | NA | NA | NA | NA | NA | • | • | • |
| Official | NA | NA | NA | NA | NA | NA | NA | NA | NA | 55 | 97 | 93 |
| Administrative | NA | NA | NA | NA | NA | NA | NA | NA | NA | 56 | 99 | 95 |
| Survey | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

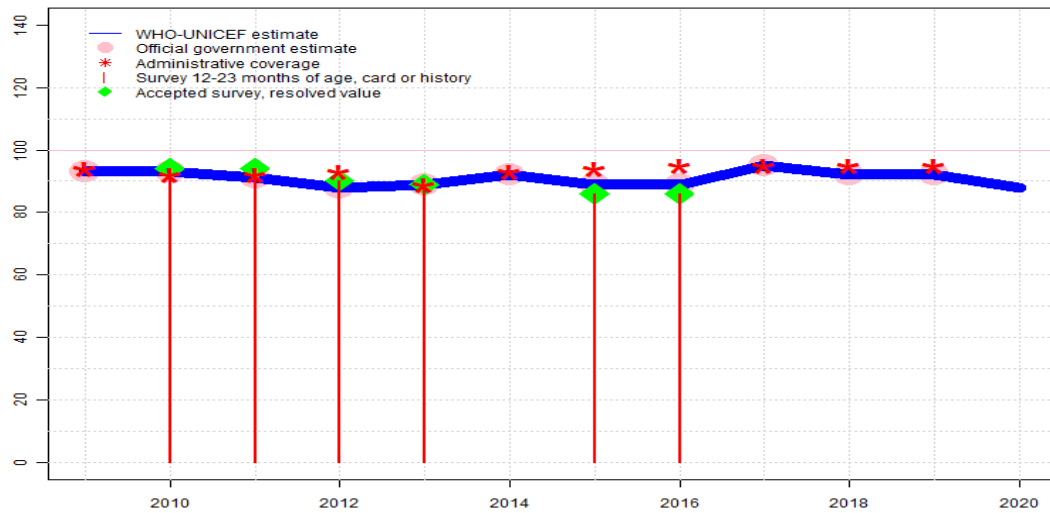
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2020 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.
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- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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Ghana - MCV1

GHA - MCV1



Description:

- 2020: Estimate is based on estimated coverage for YFV. While MCV1 data are not reported, MCV1 and YFV reported coverage has previously tracked closely. GoC=No accepted empirical data
- 2019: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2018: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2017: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2016: Estimate based on coverage reported by national government supported by survey. Survey evidence of 86 percent based on 1 survey(s). Official estimate based on 2017 EPI coverage survey results. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government supported by survey. Survey evidence of 86 percent based on 1 survey(s). Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Measles rubella vaccine introduced in September 2013. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 90 percent based on 1 survey(s). Estimate challenged by: D-
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 93 | 93 | 91 | 88 | 89 | 92 | 89 | 89 | 95 | 92 | 92 | 88 |
| Estimate GoC | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Official | 93 | 93 | 91 | 88 | 89 | 92 | 89 | 89 | 95 | 92 | 92 | NA |
| Administrative | 94 | 92 | 92 | 93 | 89 | 93 | 94 | 95 | 95 | 95 | 95 | NA |
| Survey | NA | 94 | 94 | 90 | 89 | NA | 86 | 86 | NA | NA | NA | NA |

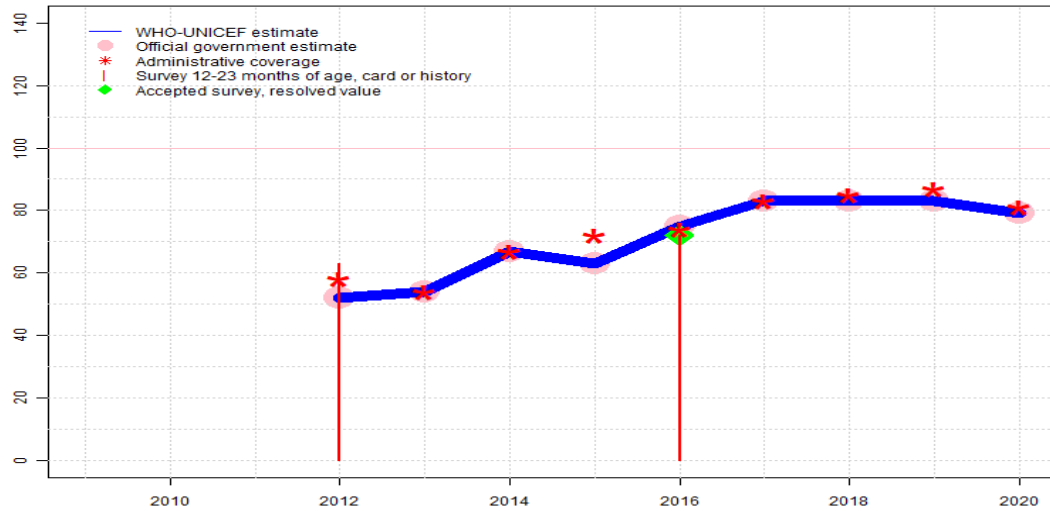
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- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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Ghana - MCV2

GHA - MCV2



Description:

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

- 2020: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2019: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2018: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2017: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2016: Estimate based on coverage reported by national government supported by survey. Survey evidence of 72 percent based on 1 survey(s). Official estimate based on 2017 EPI coverage survey results. Estimate is based on reported data during introduction period. Estimate challenged by: D-
- 2015: Estimate based on reported data. Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-
- 2014: Estimate based on reported data. . Estimate challenged by: D-
- 2013: Estimate based on reported data. Measles rubella vaccine introduced in September 2013. Estimate challenged by: D-
- 2012: Estimate based on reported data. Ghana Demographic and Health Survey, 2014 results ignored by working group. Measles second dose introduced in 2012. Recommended at 18 months. Survey may not reflect data for vaccine introduction period. Estimate challenged by: D-

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA | NA | NA | 52 | 54 | 67 | 63 | 75 | 83 | 83 | 83 | 79 |
| Estimate GoC | NA | NA | NA | • | • | • | • | • | • | • | • | • |
| Official | NA | NA | NA | 52 | 54 | 67 | 63 | 75 | 83 | 83 | 83 | 79 |
| Administrative | NA | NA | NA | 58 | 54 | 67 | 72 | 74 | 83 | 85 | 87 | 81 |
| Survey | NA | NA | NA | 63 | NA | NA | NA | 72 | NA | NA | NA | NA |

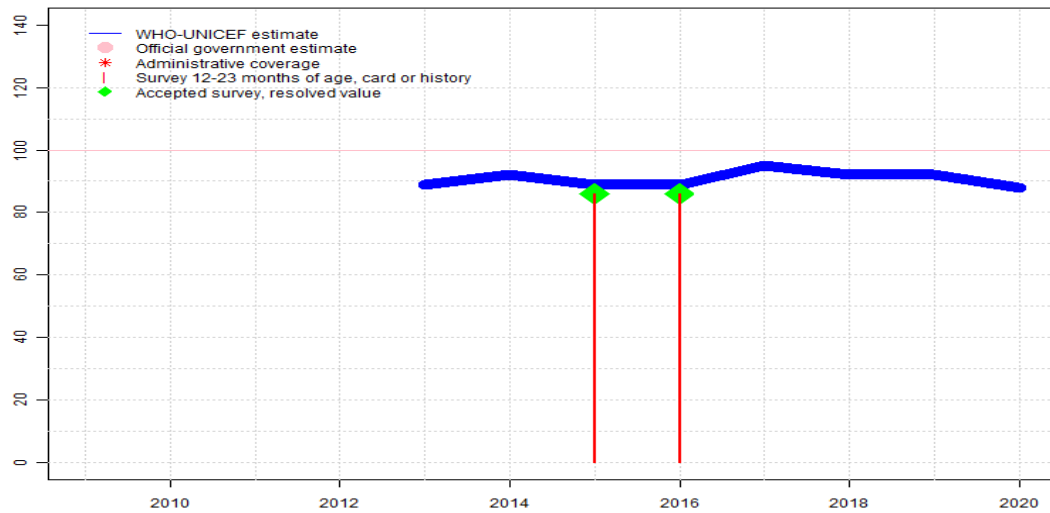
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2020 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.

Ghana - RCV1

GHA - RCV1



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.

- 2020: Estimate is based on estimated coverage for MCV1. GoC=No accepted empirical data
- 2019: Estimate based on estimated MCV1. Estimate challenged by: D-
- 2018: Estimate based on estimated MCV1. Estimate challenged by: D-
- 2017: Estimate based on estimated MCV1. Estimate challenged by: D-
- 2016: Estimate based on estimated MCV1. Official estimate based on 2017 EPI coverage survey results. Estimate challenged by: D-
- 2015: Estimate based on estimated MCV1. Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-
- 2014: Estimate based on estimated MCV1. Estimate challenged by: D-
- 2013: Estimate based on estimated MCV1. Estimate challenged by: D-

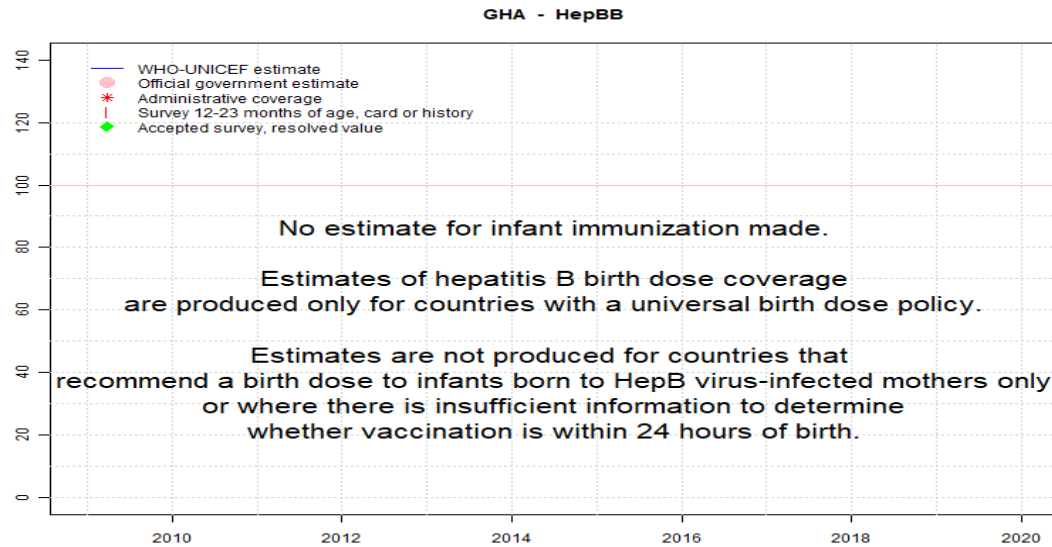
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA | NA | NA | NA | 89 | 92 | 89 | 89 | 95 | 92 | 92 | 88 |
| Estimate GoC | NA | NA | NA | NA | • | • | • | • | • | • | • | • |
| 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 | 86 | 86 | 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: 2020 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.

Ghana - HepBB



| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 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 |

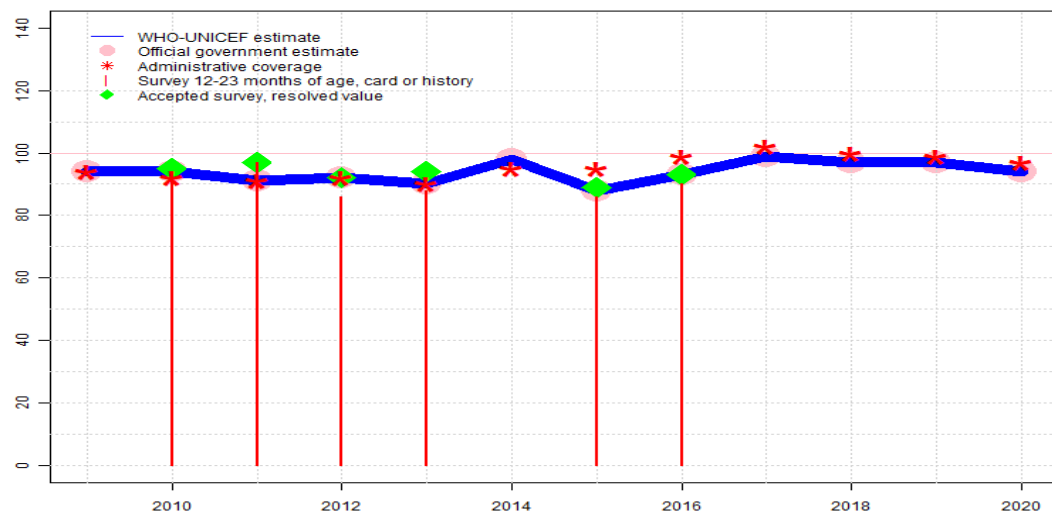
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2020 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.

Ghana - HepB3

GHA - HepB3



| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 94 | 94 | 91 | 92 | 90 | 98 | 88 | 93 | 99 | 97 | 97 | 94 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 94 | 94 | 91 | 92 | 90 | 98 | 88 | 93 | 99 | 97 | 97 | 94 |
| Administrative | 94 | 92 | 91 | 92 | 90 | 95 | 95 | 99 | 102 | 100 | 99 | 97 |
| Survey | NA | 93 | 97 | 86 | 88 | NA | 86 | 90 | 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: 2020 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.

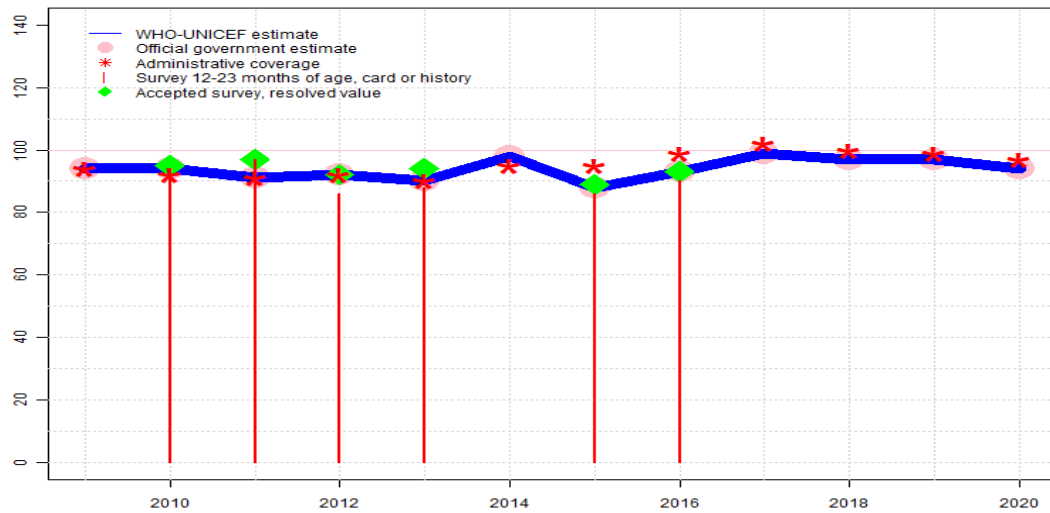
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2020: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2019: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2018: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2017: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2016: Estimate based on coverage reported by national government supported by survey. Survey evidence of 93 percent based on 1 survey(s). Ghana Multiple Indicator Cluster Survey 2017-18 card or history results of 90 percent modified for recall bias to 93 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 88 percent and 3rd dose card only coverage of 85 percent. Official estimate based on 2017 EPI coverage survey results. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Ghana Multiple Indicator Cluster Survey 2017-18 card or history results of 86 percent modified for recall bias to 89 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 80 percent and 3rd dose card only coverage of 78 percent. Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). Ghana Demographic and Health Survey, 2014 card or history results of 88 percent modified for recall bias to 94 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 87 percent and 3rd dose card only coverage of 84 percent. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Ghana Demographic and Health Survey, 2014 card or history results of 86 percent modified for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 79 percent and 3rd dose card only coverage of 76 percent. Estimate challenged by: D-
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Ghana Multiple Indicator Cluster Survey with an Enhanced Malaria Module and Biomarker 2011 card or history results of 93 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 88 percent and 3rd dose card only coverage of 85 percent. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

Ghana - Hib3

GHA - Hib3



| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 94 | 94 | 91 | 92 | 90 | 98 | 88 | 93 | 99 | 97 | 97 | 94 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 94 | 94 | 91 | 92 | 90 | 98 | 88 | 93 | 99 | 97 | 97 | 94 |
| Administrative | 94 | 92 | 91 | 92 | 90 | 95 | 95 | 99 | 102 | 100 | 99 | 97 |
| Survey | NA | 93 | 97 | 86 | 88 | NA | 86 | 90 | 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: 2020 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.

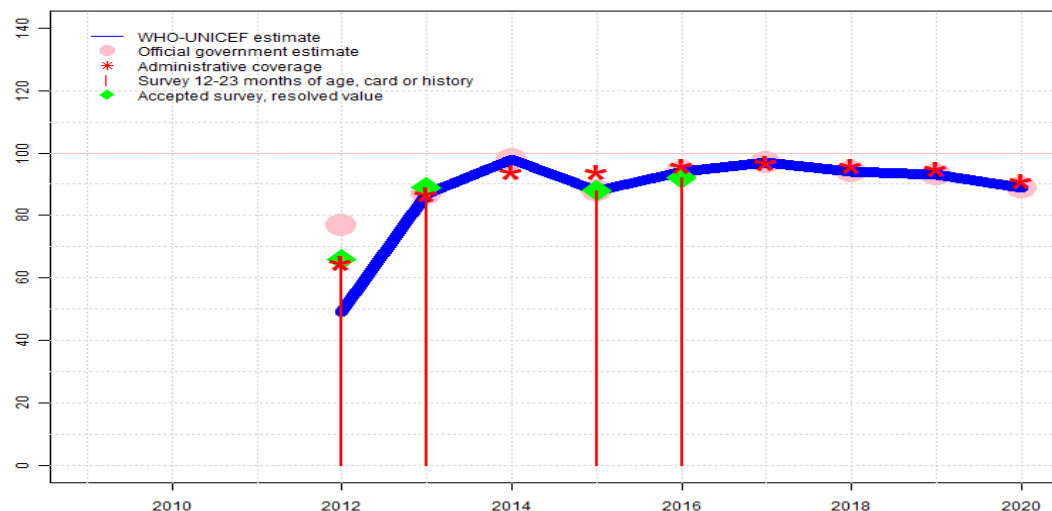
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2020: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2019: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2018: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2017: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2016: Estimate based on coverage reported by national government supported by survey. Survey evidence of 93 percent based on 1 survey(s). Ghana Multiple Indicator Cluster Survey 2017-18 card or history results of 90 percent modified for recall bias to 93 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 88 percent and 3rd dose card only coverage of 85 percent. Official estimate based on 2017 EPI coverage survey results. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Ghana Multiple Indicator Cluster Survey 2017-18 card or history results of 86 percent modified for recall bias to 89 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 80 percent and 3rd dose card only coverage of 78 percent. Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). Ghana Demographic and Health Survey, 2014 card or history results of 88 percent modified for recall bias to 94 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 87 percent and 3rd dose card only coverage of 84 percent. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Ghana Demographic and Health Survey, 2014 card or history results of 86 percent modified for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 79 percent and 3rd dose card only coverage of 76 percent. Estimate challenged by: D-
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Ghana Multiple Indicator Cluster Survey with an Enhanced Malaria Module and Biomarker 2011 card or history results of 93 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 88 percent and 3rd dose card only coverage of 85 percent. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

Ghana - RotaC

GHA - RotaC



Description:

2020: Estimate based on coverage reported by national government. Estimate challenged by: D-
 2019: Estimate based on coverage reported by national government. Estimate challenged by: D-
 2018: Estimate based on coverage reported by national government. Estimate challenged by: D-
 2017: Estimate based on coverage reported by national government. Estimate challenged by: D-
 2016: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Official estimate based on 2017 EPI coverage survey results. Estimate challenged by: D-
 2015: Estimate based on coverage reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-
 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Estimate challenged by: D-S-
 2012: Rotavirus vaccine was introduced in 2012. 65 percent coverage in 75 percent of national target population. Estimate challenged by: D-R-S-

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA | NA | NA | 49 | 87 | 98 | 88 | 94 | 97 | 94 | 93 | 89 |
| Estimate GoC | NA | NA | NA | • | • | • | • | • | • | • | • | • |
| Official | NA | NA | NA | 77 | 87 | 98 | 88 | 94 | 97 | 94 | 93 | 89 |
| Administrative | NA | NA | NA | 65 | 87 | 94 | 94 | 96 | 97 | 96 | 95 | 91 |
| Survey | NA | NA | NA | 66 | 89 | NA | 88 | 92 | NA | NA | NA | NA |

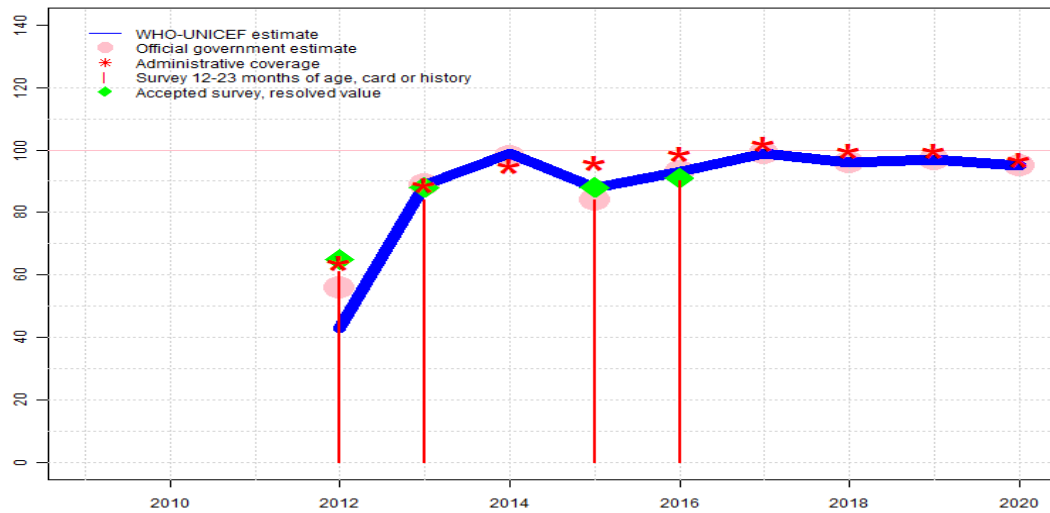
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2020 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.

Ghana - PcV3

GHA - PcV3



Description:

- 2020: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2019: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2018: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2017: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2016: Estimate is based on reported official coverage. Ghana Multiple Indicator Cluster Survey 2017-18 card or history results of 90 percent modified for recall bias to 91 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 87 percent and 3rd dose card only coverage of 84 percent. Official estimate based on 2017 EPI coverage survey results. Estimate challenged by: D-
- 2015: Estimate of 88 percent assigned by working group. Estimate is based on reported DTP3 coverage level. Ghana Multiple Indicator Cluster Survey 2017-18 card or history results of 84 percent modified for recall bias to 88 percent based on 1st dose card or history coverage of 90 percent, 1st dose card only coverage of 80 percent and 3rd dose card only coverage of 78 percent. Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-R-
- 2014: Reported data calibrated to 2013 and 2015 levels. Estimate challenged by: D-R-S-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Ghana Demographic and Health Survey, 2014 card or history results of 84 percent modified for recall bias to 88 percent based on 1st dose card or history coverage of 93 percent, 1st dose card only coverage of 85 percent and 3rd dose card only coverage of 80 percent. Estimate challenged by: D-S-
- 2012: Pneumococcal conjugate vaccine introduced in 2012. 64 percent coverage in 66 percent of national target population. Ghana Demographic and Health Survey, 2014 card or history results of 61 percent modified for recall bias to 65 percent based on 1st dose card or history coverage of 75 percent, 1st dose card only coverage of 61 percent and 3rd dose card only coverage of 53 percent. Estimate challenged by: D-R-S-

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA | NA | NA | 43 | 89 | 99 | 88 | 93 | 99 | 96 | 97 | 95 |
| Estimate GoC | NA | NA | NA | • | • | • | • | • | • | • | • | • |
| Official | NA | NA | NA | 56 | 89 | 98 | 84 | 93 | 99 | 96 | 97 | 95 |
| Administrative | NA | NA | NA | 64 | 89 | 95 | 96 | 99 | 102 | 100 | 100 | 97 |
| Survey | NA | NA | NA | 61 | 84 | NA | 84 | 90 | NA | NA | NA | NA |

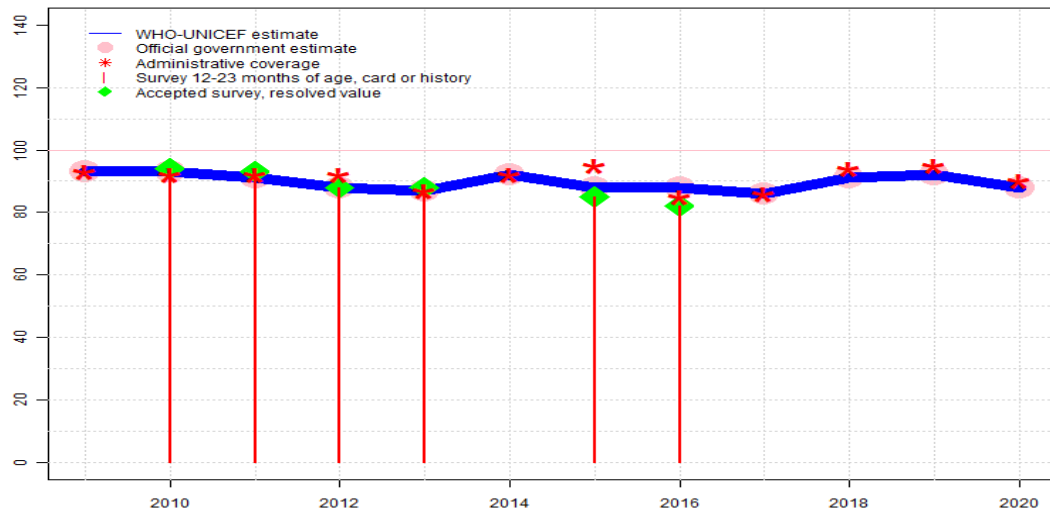
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2020 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.

Ghana - YFV

GHA - YFV



| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 93 | 93 | 91 | 88 | 87 | 92 | 88 | 88 | 86 | 91 | 92 | 88 |
| Estimate GoC | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Official | 93 | 93 | 91 | 88 | 87 | 92 | 88 | 88 | 86 | 91 | 92 | 88 |
| Administrative | 93 | 92 | 92 | 92 | 87 | 92 | 95 | 85 | 86 | 94 | 95 | 90 |
| Survey | NA | 94 | 93 | 88 | 88 | NA | 85 | 82 | 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: 2020 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:

- 2020: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2019: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2018: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2017: Estimate based on coverage reported by national government. Programme reports stock-out of 4 months. Estimate challenged by: D-
- 2016: Estimate based on coverage reported by national government supported by survey. Survey evidence of 82 percent based on 1 survey(s). Official estimate based on 2017 EPI coverage survey results. Programme reports a 2 month vaccine stock-out at national level. Decrease in admin data may be at least in part due to the stock-out. Estimate challenged by: D-
- 2015: Estimate based on coverage reported by national government supported by survey. Survey evidence of 85 percent based on 1 survey(s). Reported official government coverage based on 2014 DHS results. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Estimate challenged by: D-
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 93 percent based on 1 survey(s). Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

Ghana - survey details

2016 Ghana Multiple Indicator Cluster Survey 2017-18

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 93.5 | 12-23 m | 1694 | 88 |
| BCG | Card | 84.3 | 12-23 m | 1694 | 88 |
| BCG | Card or History | 93.6 | 12-23 m | 1694 | 88 |
| BCG | History | 9.3 | 12-23 m | 1694 | 88 |
| DTP1 | C or H <12 months | 95.6 | 12-23 m | 1694 | 88 |
| DTP1 | Card | 87.6 | 12-23 m | 1694 | 88 |
| DTP1 | Card or History | 95.8 | 12-23 m | 1694 | 88 |
| DTP1 | History | 8.2 | 12-23 m | 1694 | 88 |
| DTP3 | C or H <12 months | 89.3 | 12-23 m | 1694 | 88 |
| DTP3 | Card | 85 | 12-23 m | 1694 | 88 |
| DTP3 | Card or History | 90.5 | 12-23 m | 1694 | 88 |
| DTP3 | History | 5.6 | 12-23 m | 1694 | 88 |
| HepB1 | C or H <12 months | 95.6 | 12-23 m | 1694 | 88 |
| HepB1 | Card | 87.6 | 12-23 m | 1694 | 88 |
| HepB1 | Card or History | 95.8 | 12-23 m | 1694 | 88 |
| HepB1 | History | 8.2 | 12-23 m | 1694 | 88 |
| HepB3 | C or H <12 months | 89.3 | 12-23 m | 1694 | 88 |
| HepB3 | Card | 85 | 12-23 m | 1694 | 88 |
| HepB3 | Card or History | 90.5 | 12-23 m | 1694 | 88 |
| HepB3 | History | 5.6 | 12-23 m | 1694 | 88 |
| Hib1 | C or H <12 months | 95.6 | 12-23 m | 1694 | 88 |
| Hib1 | Card | 87.6 | 12-23 m | 1694 | 88 |
| Hib1 | Card or History | 95.8 | 12-23 m | 1694 | 88 |
| Hib1 | History | 8.2 | 12-23 m | 1694 | 88 |
| Hib3 | C or H <12 months | 89.3 | 12-23 m | 1694 | 88 |
| Hib3 | Card | 85 | 12-23 m | 1694 | 88 |
| Hib3 | Card or History | 90.5 | 12-23 m | 1694 | 88 |
| Hib3 | History | 5.6 | 12-23 m | 1694 | 88 |
| MCV1 | C or H <12 months | 81.6 | 12-23 m | 1694 | 88 |
| MCV1 | Card | 79.4 | 12-23 m | 1694 | 88 |
| MCV1 | Card or History | 86.5 | 12-23 m | 1694 | 88 |
| MCV1 | History | 7.1 | 12-23 m | 1694 | 88 |
| MCV2 | C or H <12 months | 71.9 | 24-35 m | 1754 | 88 |
| MCV2 | Card | 63.3 | 24-35 m | 1754 | 88 |
| MCV2 | Card or History | 72 | 24-35 m | 1754 | 88 |
| MCV2 | History | 8.6 | 24-35 m | 1754 | 88 |
| PCV1 | C or H <12 months | 94.3 | 12-23 m | 1694 | 88 |

| | | | | | |
|-------|-------------------|------|---------|------|----|
| PCV1 | Card | 87 | 12-23 m | 1694 | 88 |
| PCV1 | Card or History | 94.5 | 12-23 m | 1694 | 88 |
| PCV1 | History | 7.5 | 12-23 m | 1694 | 88 |
| PCV3 | C or H <12 months | 88.9 | 12-23 m | 1694 | 88 |
| PCV3 | Card | 84.5 | 12-23 m | 1694 | 88 |
| PCV3 | Card or History | 90.2 | 12-23 m | 1694 | 88 |
| PCV3 | History | 5.7 | 12-23 m | 1694 | 88 |
| Pol1 | C or H <12 months | 94.3 | 12-23 m | 1694 | 88 |
| Pol1 | Card | 86.7 | 12-23 m | 1694 | 88 |
| Pol1 | Card or History | 94.6 | 12-23 m | 1694 | 88 |
| Pol1 | History | 8 | 12-23 m | 1694 | 88 |
| Pol3 | C or H <12 months | 87.3 | 12-23 m | 1694 | 88 |
| Pol3 | Card | 84.6 | 12-23 m | 1694 | 88 |
| Pol3 | Card or History | 88.3 | 12-23 m | 1694 | 88 |
| Pol3 | History | 3.7 | 12-23 m | 1694 | 88 |
| RotaC | C or H <12 months | 91.7 | 12-23 m | 1694 | 88 |
| RotaC | Card | 85 | 12-23 m | 1694 | 88 |
| RotaC | Card or History | 91.9 | 12-23 m | 1694 | 88 |
| RotaC | History | 6.8 | 12-23 m | 1694 | 88 |
| YFV | C or H <12 months | 82.3 | 12-23 m | 1694 | 88 |
| YFV | Card | 76 | 12-23 m | 1694 | 88 |
| YFV | Card or History | 82.3 | 12-23 m | 1694 | 88 |
| YFV | History | 6.4 | 12-23 m | 1694 | 88 |

2015 Ghana Multiple Indicator Cluster Survey 2017-18

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 90.6 | 24-35 m | 1754 | 88 |
| BCG | Card | 78.4 | 24-35 m | 1754 | 88 |
| BCG | Card or History | 91 | 24-35 m | 1754 | 88 |
| BCG | History | 12.6 | 24-35 m | 1754 | 88 |
| DTP1 | C or H <12 months | 90.9 | 24-35 m | 1754 | 88 |
| DTP1 | Card | 79.6 | 24-35 m | 1754 | 88 |
| DTP1 | Card or History | 91.3 | 24-35 m | 1754 | 88 |
| DTP1 | History | 11.7 | 24-35 m | 1754 | 88 |
| DTP3 | C or H <12 months | 84.8 | 24-35 m | 1754 | 88 |
| DTP3 | Card | 78.4 | 24-35 m | 1754 | 88 |
| DTP3 | Card or History | 85.9 | 24-35 m | 1754 | 88 |
| DTP3 | History | 7.5 | 24-35 m | 1754 | 88 |

Ghana - survey details

| | | | | | |
|-------|-------------------|------|---------|------|----|
| HepB1 | C or H <12 months | 90.9 | 24-35 m | 1754 | 88 |
| HepB1 | Card | 79.6 | 24-35 m | 1754 | 88 |
| HepB1 | Card or History | 91.3 | 24-35 m | 1754 | 88 |
| HepB1 | History | 11.7 | 24-35 m | 1754 | 88 |
| HepB3 | C or H <12 months | 84.8 | 24-35 m | 1754 | 88 |
| HepB3 | Card | 78.4 | 24-35 m | 1754 | 88 |
| HepB3 | Card or History | 85.9 | 24-35 m | 1754 | 88 |
| HepB3 | History | 7.5 | 24-35 m | 1754 | 88 |
| Hib1 | C or H <12 months | 90.9 | 24-35 m | 1754 | 88 |
| Hib1 | Card | 79.6 | 24-35 m | 1754 | 88 |
| Hib1 | Card or History | 91.3 | 24-35 m | 1754 | 88 |
| Hib1 | History | 11.7 | 24-35 m | 1754 | 88 |
| Hib3 | C or H <12 months | 84.8 | 24-35 m | 1754 | 88 |
| Hib3 | Card | 78.4 | 24-35 m | 1754 | 88 |
| Hib3 | Card or History | 85.9 | 24-35 m | 1754 | 88 |
| Hib3 | History | 7.5 | 24-35 m | 1754 | 88 |
| MCV1 | C or H <12 months | 80.3 | 24-35 m | 1754 | 88 |
| MCV1 | Card | 74.6 | 24-35 m | 1754 | 88 |
| MCV1 | Card or History | 85.8 | 24-35 m | 1754 | 88 |
| MCV1 | History | 11.2 | 24-35 m | 1754 | 88 |
| PCV1 | C or H <12 months | 89.8 | 24-35 m | 1754 | 88 |
| PCV1 | Card | 79.7 | 24-35 m | 1754 | 88 |
| PCV1 | Card or History | 90.1 | 24-35 m | 1754 | 88 |
| PCV1 | History | 10.4 | 24-35 m | 1754 | 88 |
| PCV3 | C or H <12 months | 83 | 24-35 m | 1754 | 88 |
| PCV3 | Card | 77.8 | 24-35 m | 1754 | 88 |
| PCV3 | Card or History | 84.2 | 24-35 m | 1754 | 88 |
| PCV3 | History | 6.4 | 24-35 m | 1754 | 88 |
| Pol1 | C or H <12 months | 90.2 | 24-35 m | 1754 | 88 |
| Pol1 | Card | 79.1 | 24-35 m | 1754 | 88 |
| Pol1 | Card or History | 90.5 | 24-35 m | 1754 | 88 |
| Pol1 | History | 11.3 | 24-35 m | 1754 | 88 |
| Pol3 | C or H <12 months | 82.1 | 24-35 m | 1754 | 88 |
| Pol3 | Card | 77.9 | 24-35 m | 1754 | 88 |
| Pol3 | Card or History | 83.3 | 24-35 m | 1754 | 88 |
| Pol3 | History | 5.3 | 24-35 m | 1754 | 88 |
| RotaC | C or H <12 months | 87.5 | 24-35 m | 1754 | 88 |
| RotaC | Card | 78.8 | 24-35 m | 1754 | 88 |
| RotaC | Card or History | 88.1 | 24-35 m | 1754 | 88 |
| RotaC | History | 9.3 | 24-35 m | 1754 | 88 |

| | | | | | |
|-----|-------------------|------|---------|------|----|
| YFV | C or H <12 months | 78.6 | 24-35 m | 1754 | 88 |
| YFV | Card | 74.1 | 24-35 m | 1754 | 88 |
| YFV | Card or History | 84.6 | 24-35 m | 1754 | 88 |
| YFV | History | 10.5 | 24-35 m | 1754 | 88 |

2013 Ghana Demographic and Health Survey, 2014

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 96.6 | 12-23 m | 1113 | 88 |
| BCG | Card | 86.8 | 12-23 m | 982 | 88 |
| BCG | Card or History | 96.8 | 12-23 m | 1113 | 88 |
| BCG | History | 10 | 12-23 m | 132 | 88 |
| DTP1 | C or H <12 months | 96.5 | 12-23 m | 1113 | 88 |
| DTP1 | Card | 87.2 | 12-23 m | 982 | 88 |
| DTP1 | Card or History | 96.6 | 12-23 m | 1113 | 88 |
| DTP1 | History | 9.4 | 12-23 m | 132 | 88 |
| DTP3 | C or H <12 months | 87.7 | 12-23 m | 1113 | 88 |
| DTP3 | Card | 84.4 | 12-23 m | 982 | 88 |
| DTP3 | Card or History | 88.5 | 12-23 m | 1113 | 88 |
| DTP3 | History | 4.1 | 12-23 m | 132 | 88 |
| HepB1 | C or H <12 months | 96.5 | 12-23 m | 1113 | 88 |
| HepB1 | Card | 87.2 | 12-23 m | 982 | 88 |
| HepB1 | Card or History | 96.6 | 12-23 m | 1113 | 88 |
| HepB1 | History | 9.4 | 12-23 m | 132 | 88 |
| HepB3 | C or H <12 months | 87.7 | 12-23 m | 1113 | 88 |
| HepB3 | Card | 84.4 | 12-23 m | 982 | 88 |
| HepB3 | Card or History | 88.5 | 12-23 m | 1113 | 88 |
| HepB3 | History | 4.1 | 12-23 m | 132 | 88 |
| Hib1 | C or H <12 months | 96.5 | 12-23 m | 1113 | 88 |
| Hib1 | Card | 87.2 | 12-23 m | 982 | 88 |
| Hib1 | Card or History | 96.6 | 12-23 m | 1113 | 88 |
| Hib1 | History | 9.4 | 12-23 m | 132 | 88 |
| Hib3 | C or H <12 months | 87.7 | 12-23 m | 1113 | 88 |
| Hib3 | Card | 84.4 | 12-23 m | 982 | 88 |
| Hib3 | Card or History | 88.5 | 12-23 m | 1113 | 88 |
| Hib3 | History | 4.1 | 12-23 m | 132 | 88 |
| MCV1 | C or H <12 months | 82.5 | 12-23 m | 1113 | 88 |
| MCV1 | Card | 80.5 | 12-23 m | 982 | 88 |
| MCV1 | Card or History | 89.3 | 12-23 m | 1113 | 88 |

Ghana - survey details

| | | | | | | | | | | | |
|-------|-------------------|------|---------|------|----|-------|-------------------|------|---------|------|----|
| MCV1 | History | 8.8 | 12-23 m | 132 | 88 | DTP3 | Card | 76.1 | 24-35 m | 872 | 88 |
| MCV2 | C or H <24 months | 59.5 | 24-35 m | 1090 | 88 | DTP3 | Card or History | 85.8 | 24-35 m | 1090 | 88 |
| PcV1 | C or H <12 months | 93.2 | 12-23 m | 1113 | 88 | DTP3 | History | 9.7 | 24-35 m | 218 | 88 |
| PcV1 | Card | 85.1 | 12-23 m | 982 | 88 | HepB1 | C or H <12 months | 96.2 | 24-35 m | 1090 | 88 |
| PcV1 | Card or History | 93.3 | 12-23 m | 1113 | 88 | HepB1 | Card | 78.6 | 24-35 m | 872 | 88 |
| PcV1 | History | 8.2 | 12-23 m | 132 | 88 | HepB1 | Card or History | 96.4 | 24-35 m | 1090 | 88 |
| PcV3 | C or H <12 months | 83 | 12-23 m | 1113 | 88 | HepB1 | History | 17.8 | 24-35 m | 218 | 88 |
| PcV3 | Card | 80.3 | 12-23 m | 982 | 88 | HepB3 | C or H <12 months | 85.6 | 24-35 m | 1090 | 88 |
| PcV3 | Card or History | 84.2 | 12-23 m | 1113 | 88 | HepB3 | Card | 76.1 | 24-35 m | 872 | 88 |
| PcV3 | History | 3.9 | 12-23 m | 132 | 88 | HepB3 | Card or History | 85.8 | 24-35 m | 1090 | 88 |
| Pol1 | C or H <12 months | 97 | 12-23 m | 1113 | 88 | HepB3 | History | 9.7 | 24-35 m | 218 | 88 |
| Pol1 | Card | 87.9 | 12-23 m | 982 | 88 | Hib1 | C or H <12 months | 96.2 | 24-35 m | 1090 | 88 |
| Pol1 | Card or History | 97.1 | 12-23 m | 1113 | 88 | Hib1 | Card | 78.6 | 24-35 m | 872 | 88 |
| Pol1 | History | 9.2 | 12-23 m | 132 | 88 | Hib1 | Card or History | 96.4 | 24-35 m | 1090 | 88 |
| Pol3 | C or H <12 months | 83.3 | 12-23 m | 1113 | 88 | Hib1 | History | 17.8 | 24-35 m | 218 | 88 |
| Pol3 | Card | 82.7 | 12-23 m | 982 | 88 | Hib3 | C or H <12 months | 85.6 | 24-35 m | 1090 | 88 |
| Pol3 | Card or History | 84 | 12-23 m | 1113 | 88 | Hib3 | Card | 76.1 | 24-35 m | 872 | 88 |
| Pol3 | History | 1.4 | 12-23 m | 132 | 88 | Hib3 | Card or History | 85.8 | 24-35 m | 1090 | 88 |
| RotaC | C or H <12 months | 88.5 | 12-23 m | 1113 | 88 | Hib3 | History | 9.7 | 24-35 m | 218 | 88 |
| RotaC | Card | 82.5 | 12-23 m | 982 | 88 | MCV1 | C or H <12 months | 89.5 | 24-35 m | 1090 | 88 |
| RotaC | Card or History | 88.7 | 12-23 m | 1113 | 88 | MCV1 | Card | 72.8 | 24-35 m | 872 | 88 |
| RotaC | History | 6.2 | 12-23 m | 132 | 88 | MCV1 | Card or History | 90 | 24-35 m | 1090 | 88 |
| YFV | C or H <12 months | 79.1 | 12-23 m | 1113 | 88 | MCV1 | History | 17.2 | 24-35 m | 218 | 88 |
| YFV | Card | 79.4 | 12-23 m | 982 | 88 | MCV2 | Card | 51.5 | 24-35 m | 872 | 88 |
| YFV | Card or History | 88 | 12-23 m | 1113 | 88 | MCV2 | Card or History | 63.2 | 24-35 m | 1090 | 88 |
| YFV | History | 8.6 | 12-23 m | 132 | 88 | MCV2 | History | 11.6 | 24-35 m | 218 | 88 |

2012 Ghana Demographic and Health Survey, 2014

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 96.6 | 24-35 m | 1090 | 88 |
| BCG | Card | 78.7 | 24-35 m | 872 | 88 |
| BCG | Card or History | 96.6 | 24-35 m | 1090 | 88 |
| BCG | History | 17.9 | 24-35 m | 218 | 88 |
| DTP1 | C or H <12 months | 96.2 | 24-35 m | 1090 | 88 |
| DTP1 | Card | 78.6 | 24-35 m | 872 | 88 |
| DTP1 | Card or History | 96.4 | 24-35 m | 1090 | 88 |
| DTP1 | History | 17.8 | 24-35 m | 218 | 88 |
| DTP3 | C or H <12 months | 85.6 | 24-35 m | 1090 | 88 |
| PcV1 | C or H <12 months | 74.7 | 24-35 m | 1090 | 88 |
| PcV1 | Card | 60.8 | 24-35 m | 872 | 88 |
| PcV1 | Card or History | 75 | 24-35 m | 1090 | 88 |
| PcV1 | History | 14.3 | 24-35 m | 218 | 88 |
| PcV3 | C or H <12 months | 60.8 | 24-35 m | 1090 | 88 |
| PcV3 | Card | 52.9 | 24-35 m | 872 | 88 |
| PcV3 | Card or History | 61.3 | 24-35 m | 1090 | 88 |
| PcV3 | History | 8.3 | 24-35 m | 218 | 88 |
| Pol1 | C or H <12 months | 96.2 | 24-35 m | 1090 | 88 |
| Pol1 | Card | 79.3 | 24-35 m | 872 | 88 |
| Pol1 | Card or History | 96.3 | 24-35 m | 1090 | 88 |
| Pol1 | History | 17 | 24-35 m | 218 | 88 |
| Pol3 | C or H <12 months | 79.9 | 24-35 m | 1090 | 88 |
| Pol3 | Card | 75.8 | 24-35 m | 872 | 88 |

Ghana - survey details

| | | | | | |
|-------|-------------------|------|---------|------|----|
| Pol3 | Card or History | 79.8 | 24-35 m | 1090 | 88 |
| Pol3 | History | 3.9 | 24-35 m | 218 | 88 |
| RotaC | C or H <12 months | 65.6 | 24-35 m | 1090 | 88 |
| RotaC | Card | 54.9 | 24-35 m | 872 | 88 |
| RotaC | Card or History | 66.2 | 24-35 m | 1090 | 88 |
| RotaC | History | 11.3 | 24-35 m | 218 | 88 |
| YFV | C or H <12 months | 87 | 24-35 m | 1090 | 88 |
| YFV | Card | 71.8 | 24-35 m | 872 | 88 |
| YFV | Card or History | 87.7 | 24-35 m | 1090 | 88 |
| YFV | History | 15.9 | 24-35 m | 218 | 88 |

2011 Ghana EPI Cluster Survey 2012

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | Card | 96.3 | 12-23 m | 300 | 98 |
| BCG | Card or History | 99.3 | 12-23 m | 300 | 98 |
| DTP1 | Card | 97.8 | 12-23 m | 300 | 98 |
| DTP1 | Card or History | 99.7 | 12-23 m | 300 | 98 |
| DTP3 | Card | 95.3 | 12-23 m | 300 | 98 |
| DTP3 | Card or History | 97 | 12-23 m | 300 | 98 |
| HepB1 | Card | 97.8 | 12-23 m | 300 | 98 |
| HepB1 | Card or History | 99.7 | 12-23 m | 300 | 98 |
| HepB3 | Card | 95.3 | 12-23 m | 300 | 98 |
| HepB3 | Card or History | 97 | 12-23 m | 300 | 98 |
| Hib1 | Card | 97.8 | 12-23 m | 300 | 98 |
| Hib1 | Card or History | 99.7 | 12-23 m | 300 | 98 |
| Hib3 | Card | 95.3 | 12-23 m | 300 | 98 |
| Hib3 | Card or History | 97 | 12-23 m | 300 | 98 |
| MCV1 | Card | 92 | 12-23 m | 300 | 98 |
| MCV1 | Card or History | 94 | 12-23 m | 300 | 98 |
| Pol1 | Card | 97.8 | 12-23 m | 300 | 98 |
| Pol1 | Card or History | 99.7 | 12-23 m | 300 | 98 |
| Pol3 | Card | 97 | 12-23 m | 300 | 98 |
| Pol3 | Card or History | 97 | 12-23 m | 300 | 98 |
| YFV | Card | 91.3 | 12-23 m | 300 | 98 |
| YFV | Card or History | 93.3 | 12-23 m | 300 | 98 |

2010 Ghana Multiple Indicator Cluster Survey with an Enhanced Malaria

Module and Biomarker 2011

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 97.8 | 12-23 m | 1453 | 89 |
| BCG | Card | 86.4 | 12-23 m | - | 89 |
| BCG | Card or History | 98.1 | 12-23 m | 1453 | 89 |
| BCG | History | 11.7 | 12-23 m | - | 89 |
| DTP1 | C or H <12 months | 97.7 | 12-23 m | 1453 | 89 |
| DTP1 | Card | 87.6 | 12-23 m | - | 89 |
| DTP1 | Card or History | 98.4 | 12-23 m | 1453 | 89 |
| DTP1 | History | 10.8 | 12-23 m | - | 89 |
| DTP3 | C or H <12 months | 92.1 | 12-23 m | 1453 | 89 |
| DTP3 | Card | 85.3 | 12-23 m | - | 89 |
| DTP3 | Card or History | 92.9 | 12-23 m | 1453 | 89 |
| DTP3 | History | 7.6 | 12-23 m | - | 89 |
| HepB1 | C or H <12 months | 97.7 | 12-23 m | 1453 | 89 |
| HepB1 | Card | 87.6 | 12-23 m | - | 89 |
| HepB1 | Card or History | 98.4 | 12-23 m | 1453 | 89 |
| HepB1 | History | 10.8 | 12-23 m | - | 89 |
| HepB3 | C or H <12 months | 92.1 | 12-23 m | 1453 | 89 |
| HepB3 | Card | 85.3 | 12-23 m | - | 89 |
| HepB3 | Card or History | 92.9 | 12-23 m | 1453 | 89 |
| HepB3 | History | 7.6 | 12-23 m | - | 89 |
| Hib1 | C or H <12 months | 97.7 | 12-23 m | 1453 | 89 |
| Hib1 | Card | 87.6 | 12-23 m | - | 89 |
| Hib1 | Card or History | 98.4 | 12-23 m | 1453 | 89 |
| Hib1 | History | 10.8 | 12-23 m | - | 89 |
| Hib3 | C or H <12 months | 92.1 | 12-23 m | 1453 | 89 |
| Hib3 | Card | 85.3 | 12-23 m | - | 89 |
| Hib3 | Card or History | 92.9 | 12-23 m | 1453 | 89 |
| Hib3 | History | 7.6 | 12-23 m | - | 89 |
| MCV1 | C or H <12 months | 88.5 | 12-23 m | 1453 | 89 |
| MCV1 | Card | 80.7 | 12-23 m | - | 89 |
| MCV1 | Card or History | 93.7 | 12-23 m | 1453 | 89 |
| MCV1 | History | 13.1 | 12-23 m | - | 89 |
| Pol1 | C or H <12 months | 98 | 12-23 m | 1453 | 89 |
| Pol1 | Card | 87.1 | 12-23 m | - | 89 |
| Pol1 | Card or History | 98.6 | 12-23 m | 1453 | 89 |
| Pol1 | History | 11.5 | 12-23 m | - | 89 |
| Pol3 | C or H <12 months | 90.7 | 12-23 m | 1453 | 89 |

Ghana - survey details

| | | | | | |
|------|-------------------|------|---------|------|----|
| Pol3 | Card | 84.9 | 12-23 m | - | 89 |
| Pol3 | Card or History | 91.2 | 12-23 m | 1453 | 89 |
| Pol3 | History | 6.4 | 12-23 m | - | 89 |
| YFV | C or H <12 months | 88.3 | 12-23 m | 1453 | 89 |
| YFV | Card | 81.2 | 12-23 m | - | 89 |
| YFV | Card or History | 93.8 | 12-23 m | 1453 | 89 |
| YFV | History | 12.5 | 12-23 m | - | 89 |

2007 Ghana Demographic and Health Survey 2008

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 95.6 | 12-23 m | 552 | 86 |
| BCG | Card | 83 | 12-23 m | 552 | 86 |
| BCG | Card or History | 95.8 | 12-23 m | 552 | 86 |
| BCG | History | 12.8 | 12-23 m | 552 | 86 |
| DTP1 | C or H <12 months | 97.6 | 12-23 m | 552 | 86 |
| DTP1 | Card | 85.1 | 12-23 m | 552 | 86 |
| DTP1 | Card or History | 98 | 12-23 m | 552 | 86 |
| DTP1 | History | 13 | 12-23 m | 552 | 86 |
| DTP3 | C or H <12 months | 87.7 | 12-23 m | 552 | 86 |
| DTP3 | Card | 82 | 12-23 m | 552 | 86 |
| DTP3 | Card or History | 88.8 | 12-23 m | 552 | 86 |
| DTP3 | History | 6.8 | 12-23 m | 552 | 86 |
| MCV1 | C or H <12 months | 79.9 | 12-23 m | 552 | 86 |
| MCV1 | Card | 79.3 | 12-23 m | 552 | 86 |
| MCV1 | Card or History | 90.2 | 12-23 m | 552 | 86 |
| MCV1 | History | 10.9 | 12-23 m | 552 | 86 |
| Pol1 | C or H <12 months | 96.8 | 12-23 m | 552 | 86 |
| Pol1 | Card | 85.1 | 12-23 m | 552 | 86 |
| Pol1 | Card or History | 97.2 | 12-23 m | 552 | 86 |
| Pol1 | History | 12.2 | 12-23 m | 552 | 86 |
| Pol3 | C or H <12 months | 84.7 | 12-23 m | 552 | 86 |
| Pol3 | Card | 81.4 | 12-23 m | 552 | 86 |
| Pol3 | Card or History | 86.4 | 12-23 m | 552 | 86 |
| Pol3 | History | 5.1 | 12-23 m | 552 | 86 |
| YFV | C or H <12 months | 77.8 | 12-23 m | 552 | 86 |
| YFV | Card | 78.9 | 12-23 m | 552 | 86 |
| YFV | Card or History | 89.1 | 12-23 m | 552 | 86 |
| YFV | History | 10.2 | 12-23 m | 552 | 86 |

2005 Ghana Multiple Indicator Cluster Survey 2006

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 94.2 | 12-23 m | 706 | 85 |
| BCG | Card | 83.4 | 12-23 m | 706 | 85 |
| BCG | Card or History | 94.3 | 12-23 m | 706 | 85 |
| BCG | History | 10.8 | 12-23 m | 706 | 85 |
| DTP1 | C or H <12 months | 93.8 | 12-23 m | 706 | 85 |
| DTP1 | Card | 84 | 12-23 m | 706 | 85 |
| DTP1 | Card or History | 94.2 | 12-23 m | 706 | 85 |
| DTP1 | History | 10.2 | 12-23 m | 706 | 85 |
| DTP3 | C or H <12 months | 81.4 | 12-23 m | 706 | 85 |
| DTP3 | Card | 77.8 | 12-23 m | 706 | 85 |
| DTP3 | Card or History | 83.5 | 12-23 m | 706 | 85 |
| DTP3 | History | 5.7 | 12-23 m | 706 | 85 |
| HepB1 | C or H <12 months | 93.8 | 12-23 m | 706 | 85 |
| HepB1 | Card | 84 | 12-23 m | 706 | 85 |
| HepB1 | Card or History | 94.2 | 12-23 m | 706 | 85 |
| HepB1 | History | 10.2 | 12-23 m | 706 | 85 |
| HepB3 | C or H <12 months | 81.4 | 12-23 m | 706 | 85 |
| HepB3 | Card | 77.8 | 12-23 m | 706 | 85 |
| HepB3 | Card or History | 83.5 | 12-23 m | 706 | 85 |
| HepB3 | History | 5.7 | 12-23 m | 706 | 85 |
| Hib1 | C or H <12 months | 93.8 | 12-23 m | 706 | 85 |
| Hib1 | Card | 84 | 12-23 m | 706 | 85 |
| Hib1 | Card or History | 94.2 | 12-23 m | 706 | 85 |
| Hib1 | History | 10.2 | 12-23 m | 706 | 85 |
| Hib3 | C or H <12 months | 81.4 | 12-23 m | 706 | 85 |
| Hib3 | Card | 77.8 | 12-23 m | 706 | 85 |
| Hib3 | Card or History | 83.5 | 12-23 m | 706 | 85 |
| Hib3 | History | 5.7 | 12-23 m | 706 | 85 |
| MCV1 | C or H <12 months | 77.7 | 12-23 m | 706 | 85 |
| MCV1 | Card | 74.5 | 12-23 m | 706 | 85 |
| MCV1 | Card or History | 85.4 | 12-23 m | 706 | 85 |
| MCV1 | History | 10.9 | 12-23 m | 706 | 85 |
| Pol1 | C or H <12 months | 95.8 | 12-23 m | 706 | 85 |
| Pol1 | Card | 83.9 | 12-23 m | 706 | 85 |
| Pol1 | Card or History | 96.2 | 12-23 m | 706 | 85 |

Ghana - survey details

| | | | | | |
|------|-------------------|------|---------|-----|----|
| Pol1 | History | 12.3 | 12-23 m | 706 | 85 |
| Pol3 | C or H <12 months | 80.1 | 12-23 m | 706 | 85 |
| Pol3 | Card | 76.4 | 12-23 m | 706 | 85 |
| Pol3 | Card or History | 82.4 | 12-23 m | 706 | 85 |
| Pol3 | History | 6.1 | 12-23 m | 706 | 85 |
| YFV | C or H <12 months | 76.7 | 12-23 m | 706 | 85 |
| YFV | Card | 73.9 | 12-23 m | 706 | 85 |
| YFV | Card or History | 84.4 | 12-23 m | 706 | 85 |
| YFV | History | 10.5 | 12-23 m | 706 | 85 |

| | | | | | |
|------|-------------------|------|---------|-----|----|
| Pol1 | Card | 81.5 | 12-23 m | 695 | 83 |
| Pol1 | Card or history | 93 | 12-23 m | 695 | 83 |
| Pol1 | History | 11.5 | 12-23 m | 695 | 83 |
| Pol3 | C or H <12 months | 75.9 | 12-23 m | 695 | 83 |
| Pol3 | Card | 74.3 | 12-23 m | 695 | 83 |
| Pol3 | Card or history | 79.2 | 12-23 m | 695 | 83 |
| Pol3 | History | 4.9 | 12-23 m | 695 | 83 |
| YFV | C or H <12 months | 58.5 | 12-23 m | 695 | 83 |
| YFV | Card | 68.6 | 12-23 m | 695 | 83 |
| YFV | Card or history | 76.6 | 12-23 m | 695 | 83 |
| YFV | History | 8 | 12-23 m | 695 | 83 |

2002 Ghana National Demographic and Health Survey 2003

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 90 | 12-23 m | 695 | 83 |
| BCG | Card | 79.2 | 12-23 m | 695 | 83 |
| BCG | Card or history | 91.1 | 12-23 m | 695 | 83 |
| BCG | History | 12 | 12-23 m | 695 | 83 |
| DTP1 | C or H <12 months | 90 | 12-23 m | 695 | 83 |
| DTP1 | Card | 80.5 | 12-23 m | 695 | 83 |
| DTP1 | Card or history | 90.8 | 12-23 m | 695 | 83 |
| DTP1 | History | 10.4 | 12-23 m | 695 | 83 |
| DTP3 | C or H <12 months | 76.9 | 12-23 m | 695 | 83 |
| DTP3 | Card | 74.5 | 12-23 m | 695 | 83 |
| DTP3 | Card or history | 79.5 | 12-23 m | 695 | 83 |
| DTP3 | History | 5 | 12-23 m | 695 | 83 |
| MCV1 | C or H <12 months | 68.8 | 12-23 m | 695 | 83 |
| MCV1 | Card | 74 | 12-23 m | 695 | 83 |
| MCV1 | Card or history | 83.2 | 12-23 m | 695 | 83 |
| MCV1 | History | 9.2 | 12-23 m | 695 | 83 |
| Pol1 | C or H <12 months | 92.2 | 12-23 m | 695 | 83 |

1997 Ghana Demographic and Health Survey 1998

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 85.9 | 12-23 m | 1193 | 76 |
| BCG | Card or History | 84.4 | 12-23 m | 1193 | 76 |
| DTP1 | C or H <12 months | 87.7 | 12-23 m | 1193 | 76 |
| DTP1 | Card or History | 82.4 | 12-23 m | 1193 | 76 |
| DTP3 | C or H <12 months | 67.6 | 12-23 m | 1193 | 76 |
| DTP3 | Card or History | 59.3 | 12-23 m | 1193 | 76 |
| MCV1 | C or H <12 months | 60.9 | 12-23 m | 1193 | 76 |
| MCV1 | Card or History | 57.5 | 12-23 m | 1193 | 76 |
| Pol1 | C or H <12 months | 89.8 | 12-23 m | 1193 | 76 |
| Pol1 | Card or History | 85.2 | 12-23 m | 1193 | 76 |
| Pol3 | C or H <12 months | 67.1 | 12-23 m | 1193 | 76 |
| Pol3 | Card or History | 58.3 | 12-23 m | 1193 | 76 |
| YFV | C or H <12 months | 38.9 | 12-23 m | 1193 | 76 |
| YFV | Card or History | 39.5 | 12-23 m | 1193 | 76 |

Further information and estimates for previous years are available at:

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

<https://www.who.int/teams/immunization-vaccines-and-biologicals/immunization-analysis-and-insights/global-monitoring/data-statistics-and-graphics>