

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.

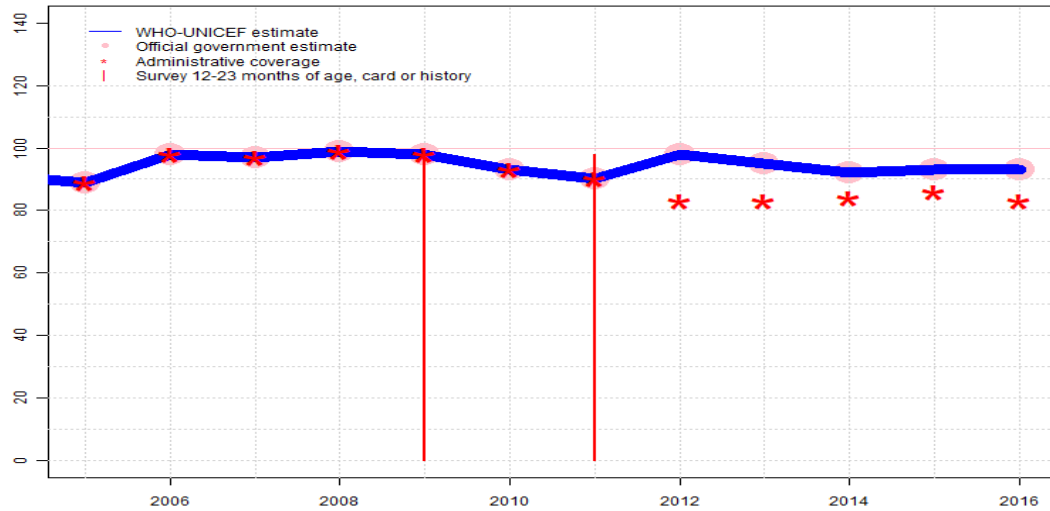
PcV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

BDI - BCG



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	89	98	97	99	98	93	90	98	95	92	93	93
Estimate GoC	●●●	●●●	●●●	●●●	●	●	●●●	●	●	●	●	●
Official	89	98	97	99	98	93	90	98	95	92	93	93
Administrative	89	98	97	99	98	93	90	83	83	84	86	83
Survey	NA	NA	NA	NA	99	NA	98	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.

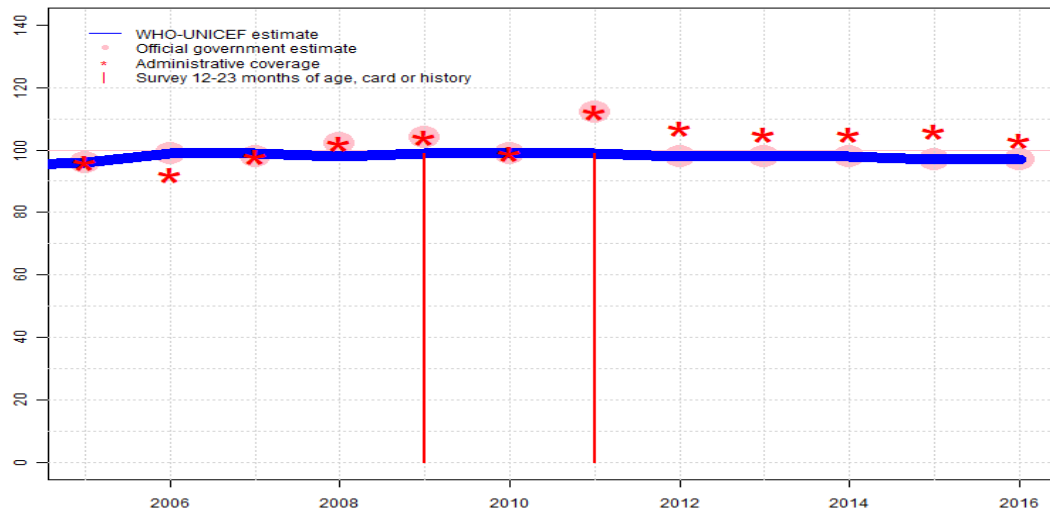
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. Preliminary results from the Burundi DHS 2016-17 suggest coverage of 98 percent. 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 based on coverage reported by national government. Relationship between births and SI is inconsistent with external sources suggesting that surviving infants are underestimated. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. Official estimate based on preliminary survey result. Estimate challenged by: D-
- 2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Estimate challenged by: D-
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2005: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Burundi - DTP1

BDI - DTP1



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	96	99	98	98	99	99	99	98	98	98	97	97
Estimate GoC	•	•	•	•••	•••	•	•••	•	•	•	•	•
Official	96	99	98	102	104	99	112	98	98	98	97	97
Administrative	96	92	98	102	104	99	112	107	105	105	106	103
Survey	NA	NA	NA	NA	99	NA	99	NA	NA	NA	NA	NA

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

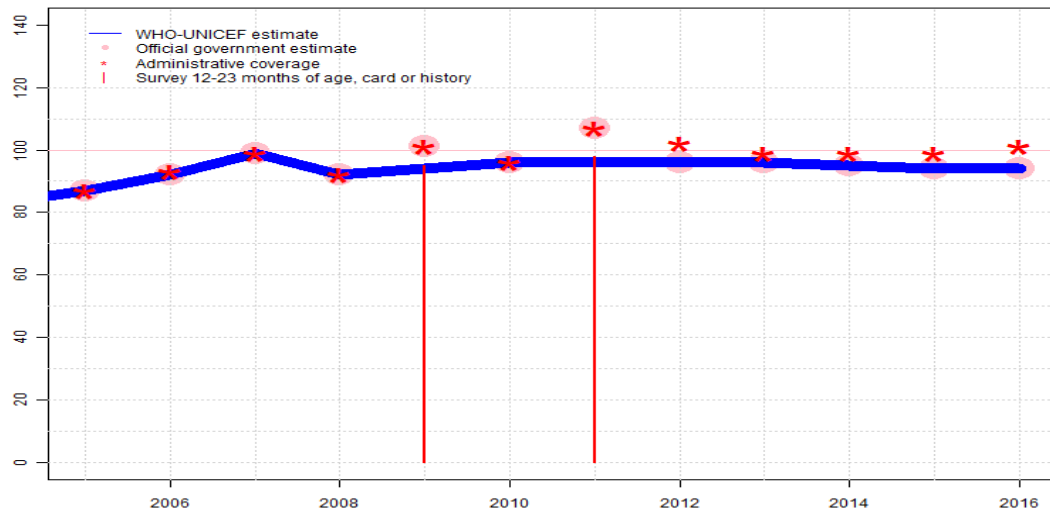
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. Preliminary results from the Burundi DHS 2016-17 suggest coverage of 99 percent. 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 based on coverage reported by national government. Relationship between births and SI is inconsistent with external sources suggesting that surviving infants are underestimated. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. Official estimate based on preliminary survey result. Estimate challenged by: D-
- 2011: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Reported data excluded because 112 percent greater than 100 percent. Reported data excluded due to an unexplained increase from 99 percent to 112 percent with decrease 98 percent. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2009: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Reported data excluded because 104 percent greater than 100 percent. GoC=R+ S+ D+
- 2008: Estimate based on interpolation between coverage reported by national government. Reported data excluded because 102 percent greater than 100 percent. GoC=R+ S+ D+
- 2007: DTP1 coverage estimated based on DTP3 coverage of 99. Estimate challenged by: R-
- 2006: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: S-

Burundi - DTP3

BDI - DTP3



Description:

- 2016: Estimate based on coverage reported by national government. Preliminary results from the Burundi DHS 2016-17 suggest coverage of 97 percent. 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 based on coverage reported by national government. Relationship between births and SI is inconsistent with external sources suggesting that surviving infants are underestimated. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. Official estimate based on preliminary survey result. Estimate challenged by: D-
- 2011: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Routine Immunization Coverage Survey and Post Measles Campaign Survey 2012 card or history results of 98 percent modified for recall bias to 99 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 29 percent and 3d dose card only coverage of 29 percent. Reported data excluded because 107 percent greater than 100 percent. Reported data excluded due to an unexplained increase from 96 percent to 107 percent with decrease 96 percent. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2009: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Burundi Demographic and Health Survey 2010 card or history results of 95 percent modified for recall bias to 97 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 62 percent and 3d dose card only coverage of 61 percent. Reported data excluded because 101 percent greater than 100 percent. GoC=R+ S+ D+
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2006: Estimate based on coverage reported by national government. Estimate challenged by: S-
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: S-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	87	92	99	92	94	96	96	96	96	95	94	94
Estimate GoC	•	•	•••	•••	•••	•	•	•	•	•	•	•
Official	87	92	99	92	101	96	107	96	96	95	94	94
Administrative	87	93	99	92	101	96	107	102	99	99	99	101
Survey	NA	NA	NA	NA	95	NA	98	NA	NA	NA	NA	NA

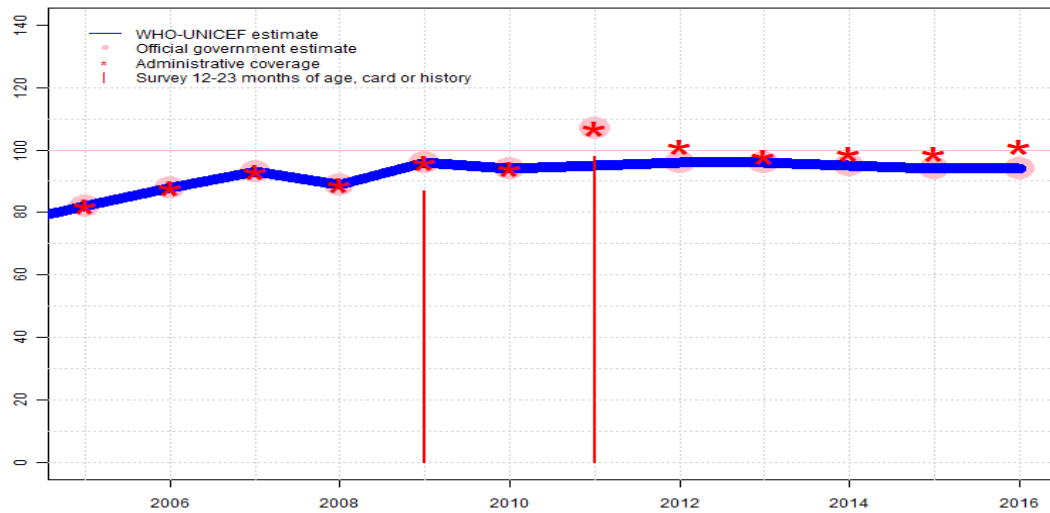
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

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- 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.

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Burundi - Pol3

BDI - Pol3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	82	88	93	89	96	94	95	96	96	95	94	94
Estimate GoC	●●●	●	●●●	●●●	●	●	●●●	●	●	●	●	●
Official	82	88	93	89	96	94	107	96	96	95	94	94
Administrative	82	88	93	89	96	94	107	101	98	99	99	101
Survey	NA	NA	NA	NA	87	NA	98	NA	NA	NA	NA	NA

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

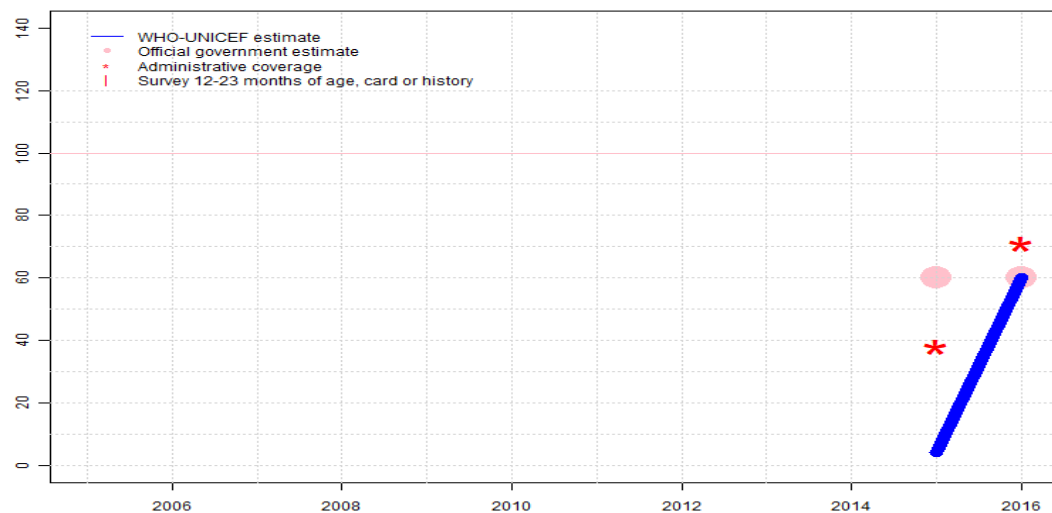
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate based on coverage reported by national government. Preliminary results from the Burundi DHS 2016-17 suggest coverage of 92 percent. 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 based on coverage reported by national government. Relationship between births and SI is inconsistent with external sources suggesting that surviving infants are underestimated. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. Official estimate based on preliminary survey result. Estimate challenged by: D-
- 2011: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Routine Immunization Coverage Survey and Post Measles Campaign Survey 2012 card or history results of 98 percent modified for recall bias to 99 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 29 percent and 3d dose card only coverage of 29 percent. Reported data excluded because 107 percent greater than 100 percent. Reported data excluded due to an unexplained increase from 94 percent to 107 percent with decrease 96 percent. GoC=R+ S+ D+
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Burundi Demographic and Health Survey 2010 card or history results of 87 percent modified for recall bias to 96 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 62 percent and 3d dose card only coverage of 60 percent. Estimate challenged by: D-
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2006: Estimate based on coverage reported by national government. Estimate challenged by: S-
- 2005: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Burundi - IPV1

BDI - IPV1



Description:

2016: Estimate based on coverage reported by national government. Estimate based on reported data following introduction. GoC=R+ D+

2015: IPV introduced in November 2015. Programme reports 38 percent coverage in 13 percent of the target population. Estimates based on coverage achieved in the the total annual national target population. Estimate challenged by: R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	60
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	•	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	60	60
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38	71
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

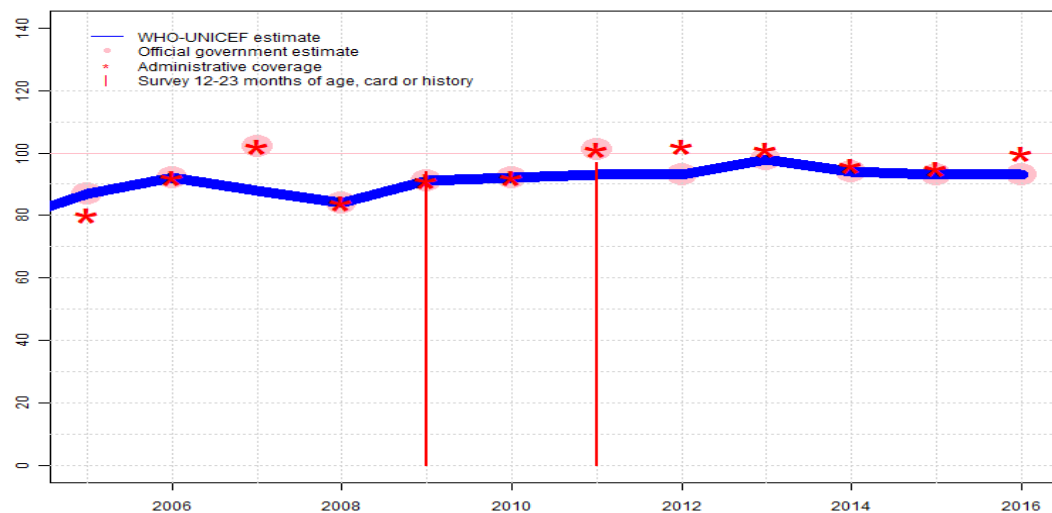
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- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While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

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Burundi - MCV1

BDI - MCV1



Description:

- 2016: Estimate based on coverage reported by national government. Preliminary results from the Burundi DHS 2016-17 suggest coverage of 94 percent. 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 based on coverage reported by national government. Relationship between births and SI is inconsistent with external sources suggesting that surviving infants are underestimated. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. Official estimate based on preliminary survey result. Estimate challenged by: D-
- 2011: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Reported data excluded because 101 percent greater than 100 percent. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). Estimate challenged by: D-
- 2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2007: Estimate based on interpolation between coverage reported by national government. Reported data excluded because 102 percent greater than 100 percent. GoC=R+ S+ D+
- 2006: Estimate based on coverage reported by national government. Estimate challenged by: S-
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: D-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	87	92	88	84	91	92	93	93	98	94	93	93
Estimate GoC	•	•	•••	•••	•	•	•	•	•	•	•	•
Official	87	92	102	84	91	92	101	93	98	94	93	93
Administrative	80	92	102	84	91	92	101	102	101	96	95	100
Survey	NA	NA	NA	NA	94	NA	97	NA	NA	NA	NA	NA

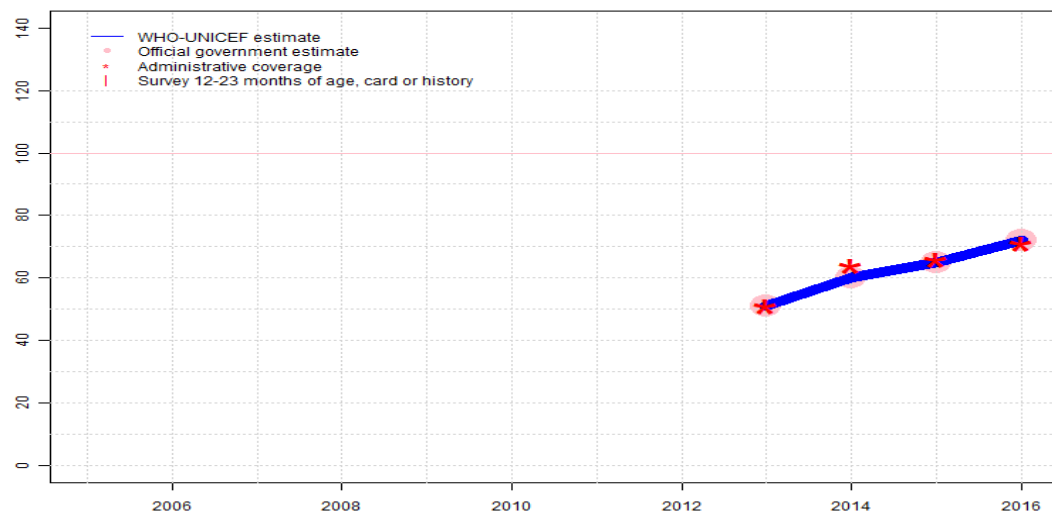
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- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2015 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
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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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Burundi - MCV2

BDI - MCV2



Description:

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

2016: Estimate based on coverage reported by national government. Preliminary results from the Burundi DHS 2016-17 suggest coverage of 76 percent. 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 based on coverage reported by national government. Relationship between births and SI is inconsistent with external sources suggesting that surviving infants are underestimated. Measles 2nd dose introduced in 2013. Estimate challenged by: D-

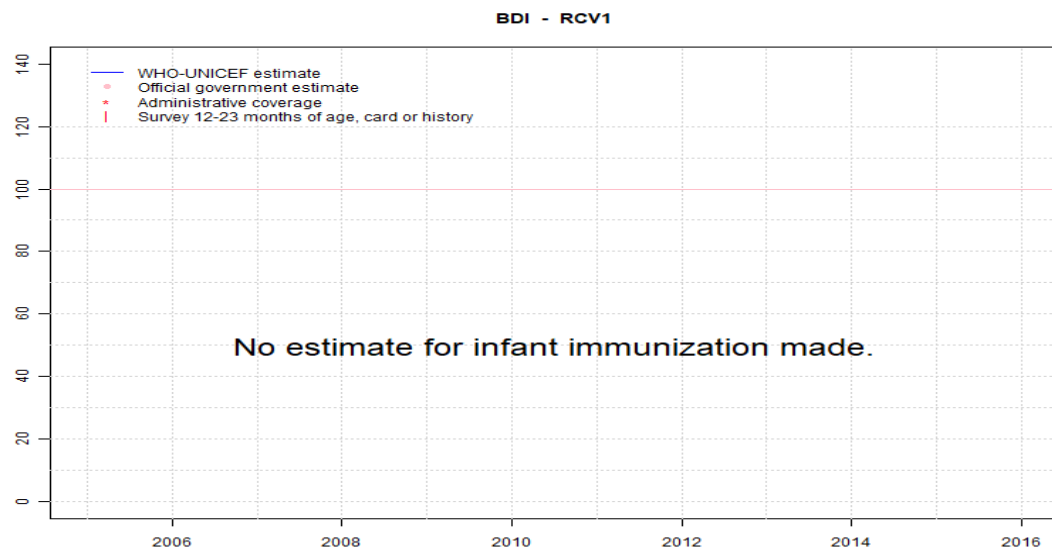
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	51	60	65	72
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	51	60	65	72
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	51	64	66	71
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

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Burundi - RCV1



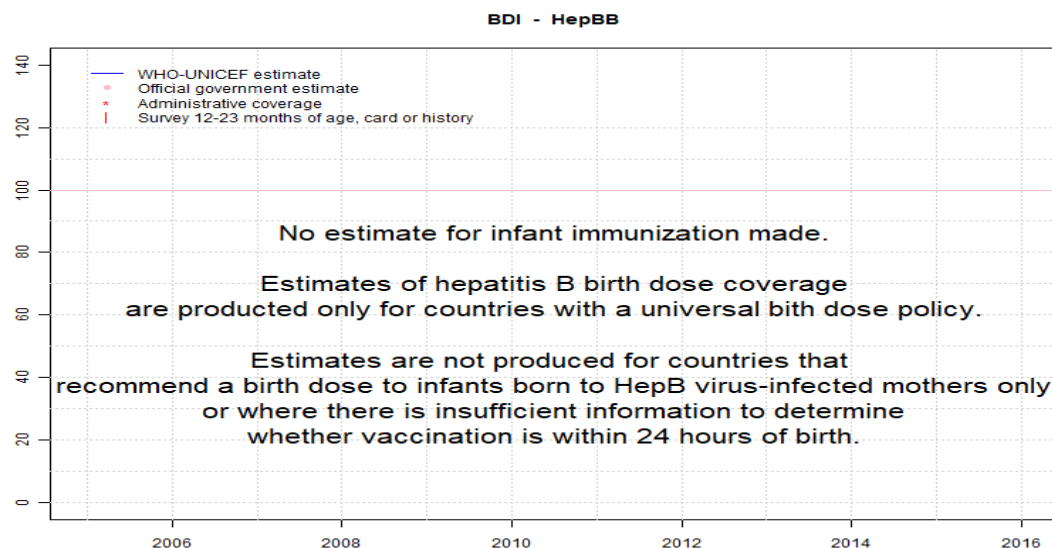
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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.

Burundi - HepBB



	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

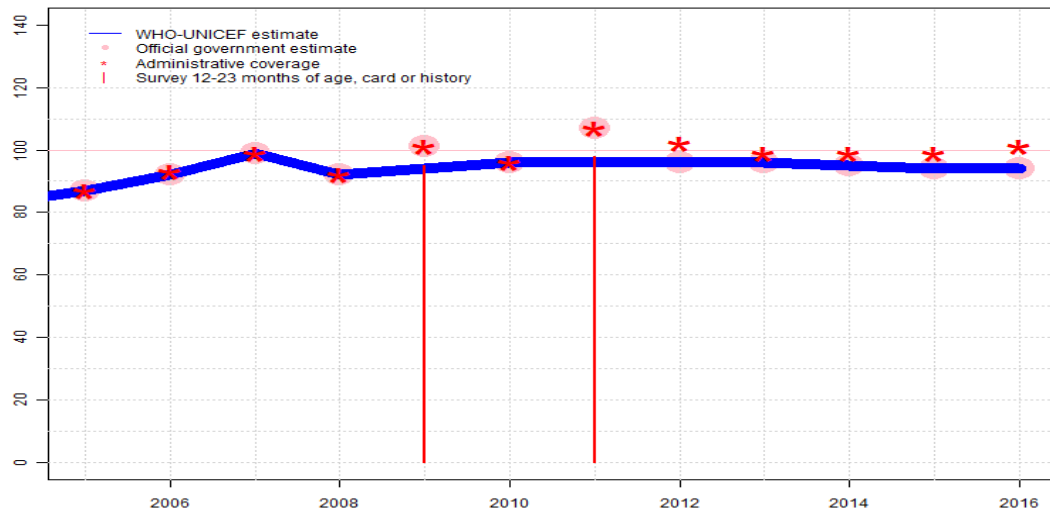
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Burundi - HepB3

BDI - HepB3



Description:

- 2016: Estimate based on coverage reported by national government. Preliminary results from the Burundi DHS 2016-17 suggest coverage of 97 percent. 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 based on coverage reported by national government. Relationship between births and SI is inconsistent with external sources suggesting that surviving infants are underestimated. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. Official estimate based on preliminary survey result. Estimate challenged by: D-
- 2011: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Routine Immunization Coverage Survey and Post Measles Campaign Survey 2012 card or history results of 98 percent modified for recall bias to 99 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 29 percent and 3d dose card only coverage of 29 percent. Reported data excluded because 107 percent greater than 100 percent. Reported data excluded due to an unexplained increase from 96 percent to 107 percent with decrease 96 percent. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2009: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Burundi Demographic and Health Survey 2010 card or history results of 95 percent modified for recall bias to 97 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 62 percent and 3d dose card only coverage of 61 percent. Reported data excluded because 101 percent greater than 100 percent. GoC=R+ S+ D+
- 2008: Estimate based on reported data. GoC=R+ S+ D+
- 2007: Estimate based on reported data. GoC=R+ S+ D+
- 2006: Estimate based on reported data. GoC=R+ D+
- 2005: Estimate based on reported data. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	87	92	99	92	94	96	96	96	96	95	94	94
Estimate GoC	●●	●●	●●●	●●●	●●●	●	●	●	●	●	●	●
Official	87	92	99	92	101	96	107	96	96	95	94	94
Administrative	87	93	99	92	101	96	107	102	99	99	99	101
Survey	NA	NA	NA	NA	95	NA	98	NA	NA	NA	NA	NA

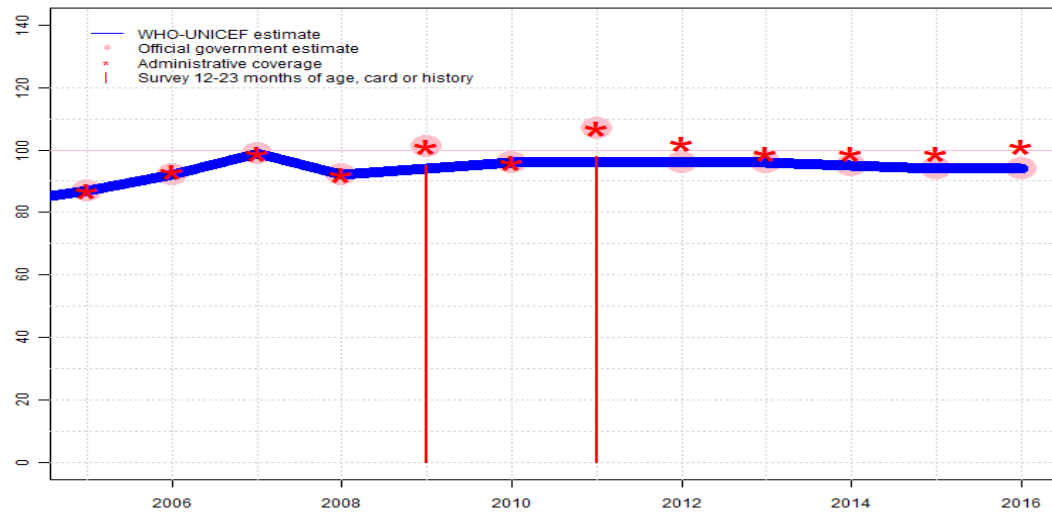
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Burundi - Hib3

BDI - Hib3



Description:

- 2016: Estimate based on coverage reported by national government. Preliminary results from the Burundi DHS 2016-17 suggest coverage of 97 percent. 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 based on coverage reported by national government. Relationship between births and SI is inconsistent with external sources suggesting that surviving infants are underestimated. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. Official estimate based on preliminary survey result. Estimate challenged by: D-
- 2011: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Routine Immunization Coverage Survey and Post Measles Campaign Survey 2012 card or history results of 98 percent modified for recall bias to 99 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 29 percent and 3d dose card only coverage of 29 percent. Reported data excluded because 107 percent greater than 100 percent. Reported data excluded due to an unexplained increase from 96 percent to 107 percent with decrease 96 percent. Estimate challenged by: D-
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2009: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). Burundi Demographic and Health Survey 2010 card or history results of 95 percent modified for recall bias to 97 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 62 percent and 3d dose card only coverage of 61 percent. Reported data excluded because 101 percent greater than 100 percent. GoC=R+ S+ D+
- 2008: Estimate based on reported data. GoC=R+ S+ D+
- 2007: Estimate based on reported data. GoC=R+ S+ D+
- 2006: Estimate based on reported data. GoC=R+ D+
- 2005: Estimate based on reported data. GoC=R+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	87	92	99	92	94	96	96	96	96	95	94	94
Estimate GoC	●●	●●	●●●	●●●	●●●	●	●	●	●	●	●	●
Official	87	92	99	92	101	96	107	96	96	95	94	94
Administrative	87	93	99	92	101	96	107	102	99	99	99	101
Survey	NA	NA	NA	NA	95	NA	98	NA	NA	NA	NA	NA

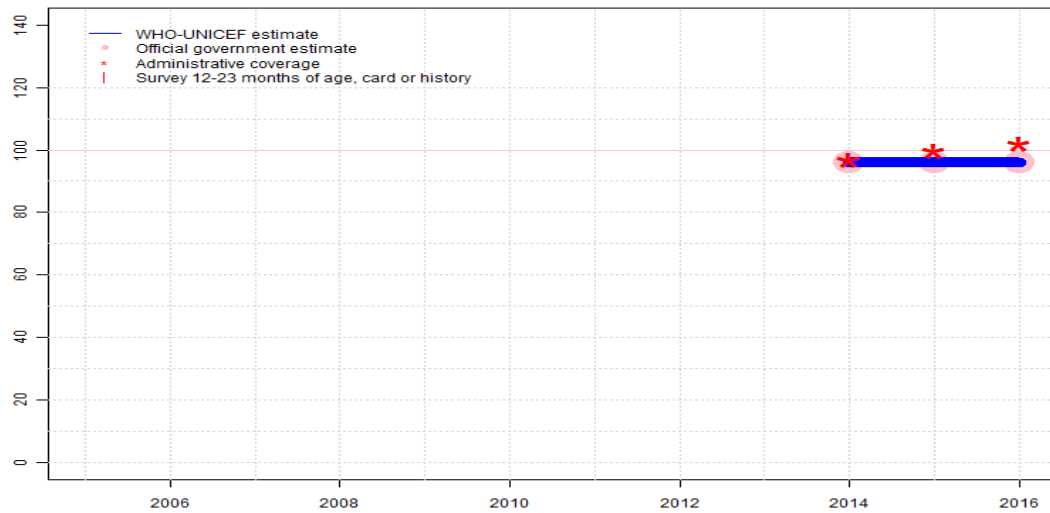
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Burundi - RotaC

BDI - RotaC



Description:

2016: Estimate based on coverage reported by national government. Preliminary results from the Burundi DHS 2016-17 suggest coverage of 90 percent. 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. Rotavirus vaccine introduced during 2013 and reporting began during 2014. 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	96	96	96
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	●	●	●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	96	96	96
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	97	100	102
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

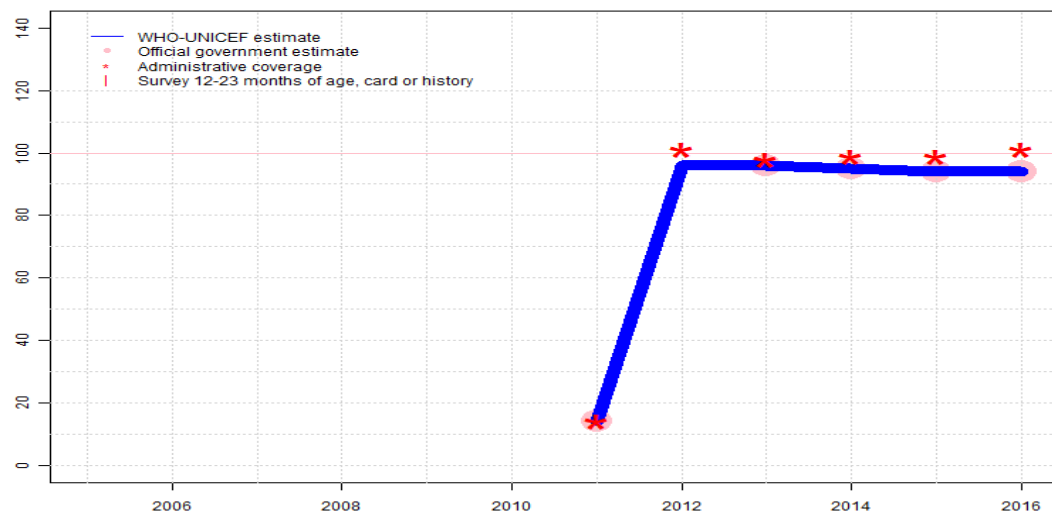
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Burundi - PcV3

BDI - PcV3



Description:

- 2016: Estimate based on coverage reported by national government. Preliminary results from the Burundi DHS 2016-17 suggest coverage of 94 percent. 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 based on coverage reported by national government. Relationship between births and SI is inconsistent with external sources suggesting that surviving infants are underestimated. Estimate challenged by: D-
- 2012: Based on DTP3 coverage estimate. Reported data excluded because 101 percent greater than 100 percent. Estimate challenged by: D-R-
- 2011: Estimate based on coverage reported by national government. Pneumococcal conjugate vaccine introduced in 2011. GoC=R+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	14	96	96	95	94	94
Estimate GoC	NA	NA	NA	NA	NA	NA	••	•	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	14	NA	96	95	94	94
Administrative	NA	NA	NA	NA	NA	NA	14	101	98	99	99	101
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.

Burundi - survey details

2011 Enquête de Couverture Vaccinale de Routine et apres une Campagne de Suivi de Vaccination Contre la Rougeole Couplee a l'Administration de la Vitamine A, de l'Albendazole et du Praziquantel 2012 (ENCV 2012)

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	98	12-23 m	5951	51
BCG	Card	29	12-23 m	-	51
BCG	Card or History	98	12-23 m	5951	51
BCG	History	69	12-23 m	-	51
DTP1	C or H <12 months	97	12-23 m	5951	51
DTP1	Card	29	12-23 m	-	51
DTP1	Card or History	99	12-23 m	5951	51
DTP1	History	70	12-23 m	-	51
DTP3	C or H <12 months	96	12-23 m	5951	51
DTP3	Card	29	12-23 m	-	51
DTP3	Card or History	98	12-23 m	5951	51
DTP3	History	69	12-23 m	-	51
HepB1	C or H <12 months	97	12-23 m	5951	51
HepB1	Card	29	12-23 m	-	51
HepB1	Card or History	99	12-23 m	5951	51
HepB1	History	70	12-23 m	-	51
HepB3	C or H <12 months	96	12-23 m	5951	51
HepB3	Card	29	12-23 m	-	51
HepB3	Card or History	98	12-23 m	5951	51
HepB3	History	69	12-23 m	-	51
Hib1	C or H <12 months	97	12-23 m	5951	51
Hib1	Card	29	12-23 m	-	51
Hib1	Card or History	99	12-23 m	5951	51
Hib1	History	70	12-23 m	-	51
Hib3	C or H <12 months	96	12-23 m	5951	51
Hib3	Card	29	12-23 m	-	51
Hib3	Card or History	98	12-23 m	5951	51
Hib3	History	69	12-23 m	-	51
MCV1	C or H <12 months	93	12-23 m	5951	51
MCV1	Card	28	12-23 m	-	51
MCV1	Card or History	97	12-23 m	5951	51
MCV1	History	69	12-23 m	-	51
Pol1	C or H <12 months	98	12-23 m	5951	51

Pol1	Card	29	12-23 m	-	51
Pol1	Card or History	99	12-23 m	5951	51
Pol1	History	70	12-23 m	-	51
Pol3	C or H <12 months	96	12-23 m	5951	51
Pol3	Card	29	12-23 m	-	51
Pol3	Card or History	98	12-23 m	5951	51
Pol3	History	70	12-23 m	-	51

2009 Enquête Démographique et de Santé Burundi 2010

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	99	12-23 m	1552	62
BCG	Card	62	12-23 m	961	62
BCG	Card or History	99	12-23 m	1552	62
BCG	History	37	12-23 m	591	62
DTP1	C or H <12 months	99	12-23 m	1552	62
DTP1	Card	62	12-23 m	961	62
DTP1	Card or History	99	12-23 m	1552	62
DTP1	History	37	12-23 m	591	62
DTP3	C or H <12 months	95	12-23 m	1552	62
DTP3	Card	61	12-23 m	961	62
DTP3	Card or History	95	12-23 m	1552	62
DTP3	History	35	12-23 m	591	62
HepB1	C or H <12 months	99	12-23 m	1552	62
HepB1	Card	62	12-23 m	961	62
HepB1	Card or History	99	12-23 m	1552	62
HepB1	History	37	12-23 m	591	62
HepB3	C or H <12 months	95	12-23 m	1552	62
HepB3	Card	61	12-23 m	961	62
HepB3	Card or History	95	12-23 m	1552	62
HepB3	History	35	12-23 m	591	62
Hib1	C or H <12 months	99	12-23 m	1552	62
Hib1	Card	62	12-23 m	961	62
Hib1	Card or History	99	12-23 m	1552	62
Hib1	History	37	12-23 m	591	62
Hib3	C or H <12 months	95	12-23 m	1552	62
Hib3	Card	61	12-23 m	961	62
Hib3	Card or History	95	12-23 m	1552	62
Hib3	History	35	12-23 m	591	62

Burundi - survey details

MCV1	C or H <12 months	89	12-23 m	1552	62
MCV1	Card	59	12-23 m	961	62
MCV1	Card or History	94	12-23 m	1552	62
MCV1	History	35	12-23 m	591	62
Pol1	C or H <12 months	98	12-23 m	1552	62
Pol1	Card	62	12-23 m	961	62
Pol1	Card or History	99	12-23 m	1552	62
Pol1	History	37	12-23 m	591	62
Pol3	C or H <12 months	87	12-23 m	1552	62
Pol3	Card	60	12-23 m	961	62
Pol3	Card or History	87	12-23 m	1552	62
Pol3	History	27	12-23 m	591	62

Pol1	C or H <12 months	89	12-23 m	1453	64
Pol1	Card	63	12-23 m	1453	64
Pol1	Card or History	90	12-23 m	1453	64
Pol1	History	28	12-23 m	1453	64
Pol3	C or H <12 months	68	12-23 m	1453	64
Pol3	Card	54	12-23 m	1453	64
Pol3	Card or History	71	12-23 m	1453	64
Pol3	History	17	12-23 m	1453	64

1999 Enquête Nationale d'Évaluation des Conditions de vie de l'Enfant et de la Femme au Burundi (ENECEF-BURUNDI 2000), Rapport Préliminaire

2004 Enquête Nationale d'Évaluation des Conditions de vie de l'Enfant et de la Femme au Burundi - 2005

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	61	12-23 m	-	62
BCG	Card or History	84	12-23 m	598	62
BCG	History	23	12-23 m	-	62
DTP1	Card	62	12-23 m	-	62
DTP1	Card or History	86	12-23 m	598	62
DTP1	History	24	12-23 m	-	62
DTP3	Card	57	12-23 m	-	62
DTP3	Card or History	73	12-23 m	598	62
DTP3	History	17	12-23 m	-	62
MCV1	Card	52	12-23 m	-	62
MCV1	Card or History	70	12-23 m	598	62
MCV1	History	23	12-23 m	-	62
Pol1	Card	60	12-23 m	-	62
Pol1	Card or History	87	12-23 m	598	62
Pol1	History	27	12-23 m	-	62
Pol3	Card	48	12-23 m	-	62
Pol3	Card or History	63	12-23 m	598	62
Pol3	History	16	12-23 m	-	62

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