

July 1, 2023; page 1

WHO and UNICEF estimates of national immunization coverage - next revision available July $15,\,2024$

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

 $\mathbf{BCG:}\,$ 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.

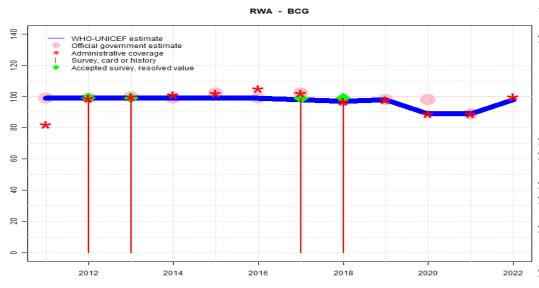
IPV1: percentage of surviving infants who received at least one dose of inactivated polio vaccine. In countries utilizing an immunization schedule recommending either (i) a primary series of three doses of oral polio vaccine (OPV) plus at least one dose of IPV where OPV is included in routine

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. Co verage 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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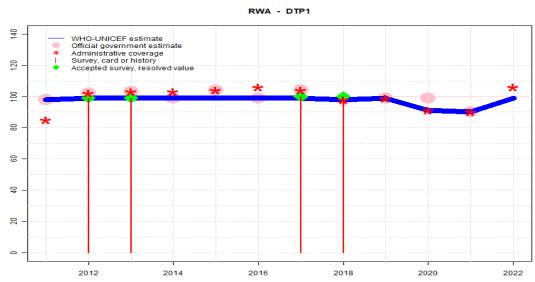


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	99	99	99	99	99	99	98	97	98	89	89	98
Estimate GoC	•••	••	•••	•••	•••	•••	•••	•••	•••	•••	••	•
Official	99	99	100	99	102	99	102	97	98	98	89	NA
Administrative	82	99	100	101	102	105	102	97	98	89	89	100
Survey	NA	99	99	NA	NA	NA	99	99	NA	NA	NA	NA

- ••• Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 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.

- 2022: Estimate informed by estimated coverage for 2019 following a review of administrative data which suggests similar number of administered doses in 2022 compared to 2019, though estimated coverage for 2022 may overestimate actual coverage. Reported administrative coverage reflects increases in doses administered as well as a 10 percent decline in the target population compared to 2021 based on updated projections from the 2012 census. Reported data excluded due to sudden change in coverage from 89 level to 100 percent. Estimate challenged by: R-
- 2021: Estimate informed by reported data. GoC=R+ D+
- 2020: Estimate informed by reported administrative data. Official estimate based on previous year WHO UNICEF estimated coverage. GoC=R+S+D+
- 2019: Estimate informed by reported data. GoC=R+S+D+
- 2018: Estimate informed by reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). GoC=R+S+D+
- 2017: Estimate informed by interpolation between reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). Reported data excluded because 102 percent greater than 100 percent. GoC=R+S+D+
- 2016: Estimate informed by reported data. The final results of the 2012 Census were released by the National Institute of Statistics of Rwanda in April 2014. WHO and UNICEF recommend a revision of the reported coverage time series using updated population estimates. GoC=R+S+D+
- 2015: Estimate informed by interpolation between reported data. Reported data excluded because 102 percent greater than 100 percent. GoC=R+ S+ D+
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- 2012: Estimate informed by reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). The number of children vaccinated with BCG was used as the proxy of target populations for all other antigens. This measure is temporary pending the availability of the 2012 census results. GoC=Assigned by working group.
- 2011: Estimate informed by reported data. Official government estimates of coverage from 2009-2011 are based on the 2010 DHS results of coverage among children 12-23 months of age vaccinated by 12 months of age documented by card or caretaker recall. GoC=R+ S+ D+

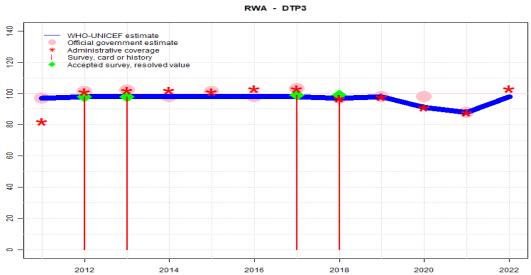


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	98	99	99	99	99	99	99	98	99	91	90	99
Estimate GoC	•••	••	•••	•••	•••	•••	•••	•••	•••	•••	••	•
Official	98	102	103	99	104	99	104	98	99	99	90	NA
Administrative	85	102	103	103	104	106	104	98	99	91	90	106
Survey	NA	99	99	NA	NA	NA	100	100	NA	NA	NA	NA

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- 2021: Estimate informed by reported data. GoC=R+ D+
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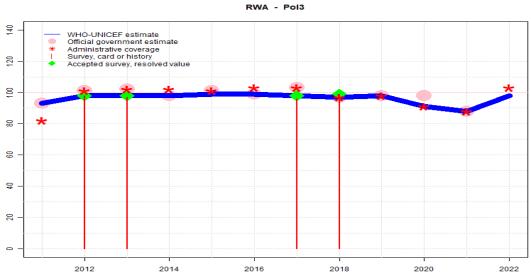


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	97	98	98	98	98	98	98	97	98	91	88	98
Estimate GoC	•••	••	•••	•••	•••	•••	•••	•••	•••	•••	••	•
Official	97	101	102	98	101	98	103	97	98	98	88	NA
Administrative	82	101	102	102	101	103	103	97	98	91	88	103
Survey	NA	98	98	NA	NA	NA	99	99	NA	NA	NA	NA

- ••• Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 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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	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	93	98	98	98	99	99	98	97	98	91	88	98
Estimate GoC	•••	••	•	•••	•••	•••	•••	•••	•••	•••	••	•
Official	93	101	102	98	101	99	103	97	98	98	88	NA
Administrative	82	101	102	102	101	103	103	97	98	91	88	103
Survey	NA	98	97	NA	NA	NA	96	98	NA	NA	NA	NA

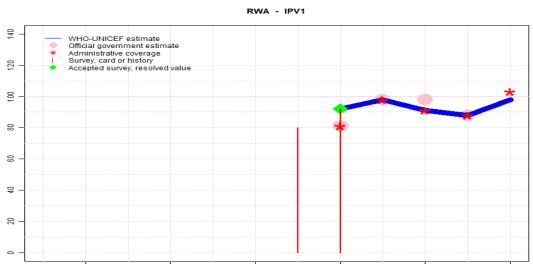
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- 2018: Estimate informed by reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). Rwanda Demographic and Health Survey 2019-2020 card or history results of 98 percent modified for recall bias to 99 percent based on 1st dose card or history coverage of 100 percent, 1st dose card only coverage of 97 percent and 3rd dose card only coverage of 96 percent. GoC=R+ S+ D+
- 2017: Estimate informed by interpolation between reported data supported by survey. Survey evidence of 98 percent based on 1 survey(s). Rwanda Demographic and Health Survey 2019-2020 card or history results of 96 percent modified for recall bias to 98 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 93 percent and 3rd dose card only coverage of 92 percent. Reported data excluded because 103 percent greater than 100 percent. GoC=R+S+D+
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- 2012: Estimate of 98 percent assigned by working group. Estimate is based on survey results. Reported data excluded because 101 percent greater than 100 percent. The number of children vaccinated with BCG was used as the proxy of target populations for all other antigens. This measure is temporary pending the availability of the 2012 census results. GoC=Assigned by working group.

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2022



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	92	98	91	88	98						
Estimate GoC	NA	•	•	•	•	•						
Official	NA	81	98	98	88	NA						
Administrative	NA	81	98	91	88	103						
Survey	NA	NA	NA	NA	NA	NA	80	92	NA	NA	NA	NA

2016

2018

2020

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: 2022 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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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).

022: Estimate informed by estimated coverage for 2019 following a review of administrative data which suggests similar number of administered doses in 2022 compared to 2019, though estimated coverage for 2022 may overestimate actual coverage. Reported administrative coverage reflects increases in doses administered as well as a 10 percent decline in the target population compared to 2021 based on updated projections from the 2012 census. Reported data excluded because 103 percent greater than 100 percent. Reported data excluded due to sudden change in coverage from 88 level to 103 percent. Estimate challenged by: R-

2021: Estimate based on reported data following introduction. Estimate challenged by: R-

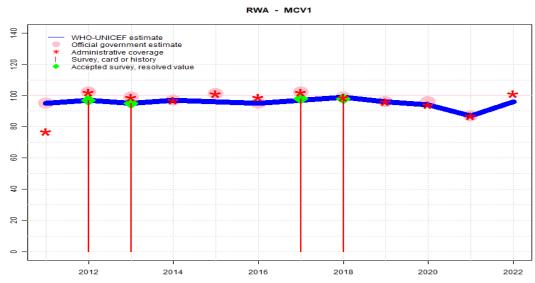
2020: Estimate based on reported data following introduction. Official estimate based on previous year WHO UNICEF estimated coverage. Estimate challenged by: R-

2019: Estimate informed by reported data. Estimate of 98 percent changed from previous revision value of 99 percent. Estimate challenged by: R-

2018: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 92 percent based on 1 survey(s). Inactivated polio vaccine introduced during March 2018. Estimate challenged by: D-R-

2012

2014

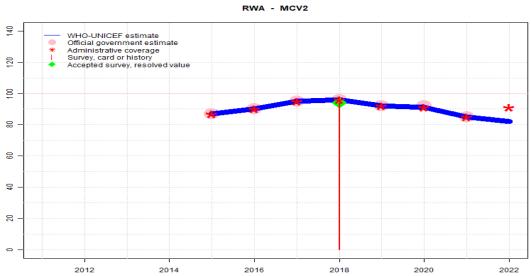


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	95	97	95	97	96	95	97	99	96	94	87	96
Estimate GoC	•••	••	•	•••	•••	•••	•••	•••	•••	•••	••	•
Official	95	102	99	97	101	95	102	99	96	96	87	NA
Administrative	77	102	99	97	101	99	102	99	96	94	87	101
Survey	NA	97	95	NA	NA	NA	98	98	NA	NA	NA	NA

- ••• Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 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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- 2015: Estimate informed by interpolation between reported data. Reported data excluded because 101 percent greater than 100 percent. GoC=R+S+D+
- 2014: Estimate is based on reported data. GoC=R+S+D+
- 2013: Estimate of 95 percent assigned by working group. Estimate is based on survey results. Reported data excluded. Reported coverage for all other antigens is 100 percent or greater thereby suggesting an underestimated target population size. Estimate challenged by: R-
- 2012: Estimate of 97 percent assigned by working group. Estimate is based on survey results. Reported data excluded because 102 percent greater than 100 percent. The number of children vaccinated with BCG was used as the proxy of target populations for all other antigens. This measure is temporary pending the availability of the 2012 census results. GoC=Assigned by working group.
- 2011: Estimate is based on reported data. Official government estimates of coverage from 2009-2011 are based on the 2010 DHS results of coverage among children 12-23 months of age vaccinated by 12 months of age documented by card or caretaker recall. GoC=R+ S+ D+



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	87	90	95	96	92	91	85	82
Estimate GoC	NA	NA	NA	NA	••	•••	•••	•••	•••	•••	••	•
Official	NA	NA	NA	NA	87	90	95	96	92	92	85	NA
Administrative	NA	NA	NA	NA	87	90	95	96	92	91	85	91
Survey	NA	94	NA	NA	NA	NA						

- ••• Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 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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Description:

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

2022: Estimate informed by a three percent decline in reported doses administered between 2021 and 2022 applied to estimated coverage for 2021. Reported administrative coverage for MCV2 does not reflect the decrease in reported doses administered but likely reflects the influence of a 10 percent decline in the target population compared to 2021 based on updated projections from the 2012 census. Estimate challenged by: R-

2021: Estimate informed by reported data. GoC=R+ D+

2020: Estimate informed by reported administrative data. Official estimate based on previous year WHO UNICEF estimated coverage. GoC=R+S+D+

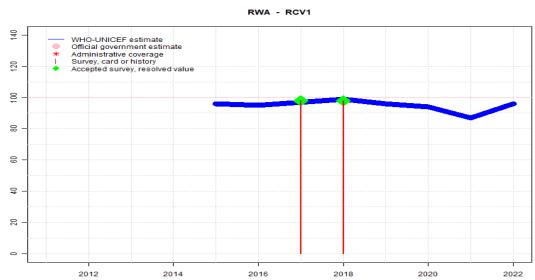
2019: Estimate informed by reported data. GoC=R+S+D+

2018: Estimate informed by reported data supported by survey. Survey evidence of 94 percent based on 1 survey(s). GoC=R+ S+ D+

2017: Estimate informed by reported data. GoC=R+ S+ D+

2016: Estimate informed by reported data. The final results of the 2012 Census were released by the National Institute of Statistics of Rwanda in April 2014. WHO and UNICEF recommend a revision of the reported coverage time series using updated population estimates. GoC=R+S+D+

2015: Estimate informed by reported data. Second dose of MCV introduced during July 2014, reporting started in 2015. GoC=R+ D+



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	96	95	97	99	96	94	87	96
Estimate GoC	NA	NA	NA	NA	•••	•••	•••	•••	•••	•••	••	•
Official	NA											
Administrative	NA											
Survey	NA	NA	NA	NA	NA	NA	98	98	NA	NA	NA	NA

- ••• Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- •• Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

Description:

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

2022: Estimate informed by estimated coverage for 2019 following a review of administrative data which suggests similar number of administered doses in 2022 compared to 2019, though estimated coverage for 2022 may overestimate actual coverage. Reported administrative coverage reflects increases in doses administered as well as a 10 percent decline in the target population compared to 2021 based on updated projections from the 2012 census. Estimate challenged by: R-

2021: Estimate based on estimated MCV1. GoC=R+ D+

2020: Estimate based on estimated MCV1. Official estimate based on previous year WHO UNICEF estimated coverage. GoC=R+S+D+

2019: Estimate based on estimated MCV1. GoC=R+S+D+

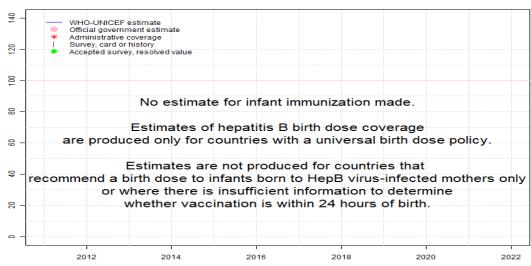
2018: Estimate based on estimated MCV1. GoC=R+S+D+

2017: Estimate based on estimated MCV1. GoC=R+S+D+

2016: Estimate based on estimated MCV1. The final results of the 2012 Census were released by the National Institute of Statistics of Rwanda in April 2014. WHO and UNICEF recommend a revision of the reported coverage time series using updated population estimates. GoC=R+S+D+

2015: Estimate based on estimated MCV1. Rubella containing vaccine introduced in July 2014 as measles-rubella combination vaccine. Coverage estimates starting in 2015 for a full birth cohort. GoC=R+S+D+



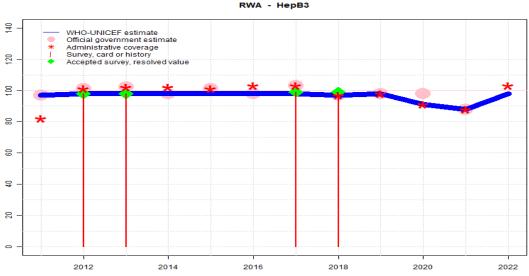


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA											
Estimate GoC	NA											
Official	NA											
Administrative	NA											
Survey	NA											

- ••• Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 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.

Rwanda - HepB3



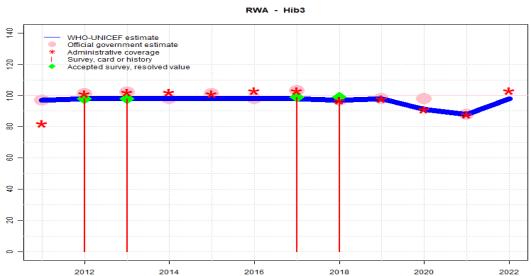
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	97	98	98	98	98	98	98	97	98	91	88	98
Estimate GoC	•••	••	•••	•••	•••	•••	•••	•••	•••	•••	••	•
Official	97	101	102	98	101	98	103	97	98	98	88	NA
Administrative	82	101	102	102	101	103	103	97	98	91	88	103
Survey	NA	98	98	NA	NA	NA	99	99	NA	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: 2022 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.

- 2022: Estimate informed by estimated coverage for 2019 following a review of administrative data which suggests similar number of administered doses in 2022 compared to 2019, though estimated coverage for 2022 may overestimate actual coverage. Reported administrative coverage reflects increases in doses administered as well as a 10 percent decline in the target population compared to 2021 based on updated projections from the 2012 census. Reported data excluded because 103 percent greater than 100 percent. Reported data excluded due to sudden change in coverage from 88 level to 103 percent. Estimate challenged by: R-
- 2021: Estimate informed by reported data. GoC=R+ D+
- 2020: Estimate informed by reported administrative data. Official estimate based on previous year WHO UNICEF estimated coverage. GoC=R+S+D+
- 2019: Estimate informed by reported data. GoC=R+S+D+
- 2018: Estimate informed by reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). GoC=R+ S+ D+
- 2017: Estimate informed by interpolation between reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). Reported data excluded because 103 percent greater than 100 percent. GoC=R+S+D+
- 2016: Estimate informed by reported data. The final results of the 2012 Census were released by the National Institute of Statistics of Rwanda in April 2014. WHO and UNICEF recommend a revision of the reported coverage time series using updated population estimates. GoC=R+S+D+
- 2015: Estimate informed by interpolation between reported data. Reported data excluded because 101 percent greater than 100 percent. GoC=R+S+D+
- 2014: Estimate informed by reported data. GoC=R+S+D+
- 2013: Estimate informed by interpolation between reported data supported by survey. Survey evidence of 98 percent based on 1 survey(s). Reported data excluded because 102 percent greater than 100 percent. GoC=R+S+D+
- 2012: Estimate of 98 percent assigned by working group. Estimate is based on survey results. Reported data excluded because 101 percent greater than 100 percent. The number of children vaccinated with BCG was used as the proxy of target populations for all other antigens. This measure is temporary pending the availability of the 2012 census results. GoC=Assigned by working group.
- 2011: Estimate is based on reported data. Official government estimates of coverage from 2009-2011 are based on the 2010 DHS results of coverage among children 12-23 months of age vaccinated by 12 months of age documented by card or caretaker recall. GoC=R+ S+ D+

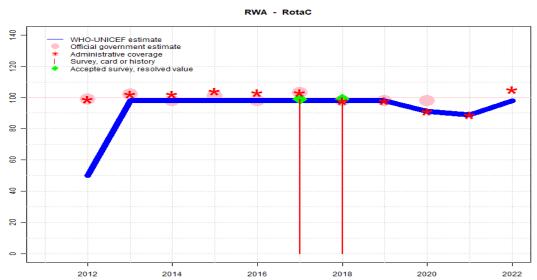


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	97	98	98	98	98	98	98	97	98	91	88	98
Estimate GoC	•••	••	•••	•••	•••	•••	•••	•••	•••	•••	••	•
Official	97	101	102	98	101	98	103	97	98	98	88	NA
Administrative	82	101	102	102	101	103	103	97	98	91	88	103
Survey	NA	98	98	NA	NA	NA	99	99	NA	NA	NA	NA

- ••• Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 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.

- 2022: Estimate informed by estimated coverage for 2019 following a review of administrative data which suggests similar number of administered doses in 2022 compared to 2019, though estimated coverage for 2022 may overestimate actual coverage. Reported administrative coverage reflects increases in doses administered as well as a 10 percent decline in the target population compared to 2021 based on updated projections from the 2012 census. Reported data excluded because 103 percent greater than 100 percent. Reported data excluded due to sudden change in coverage from 88 level to 103 percent. Estimate challenged by: R-
- 2021: Estimate informed by reported data. GoC=R+ D+
- 2020: Estimate informed by reported administrative data. Official estimate based on previous year WHO UNICEF estimated coverage. GoC=R+S+D+
- 2019: Estimate informed by reported data. GoC=R+S+D+
- 2018: Estimate informed by reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). GoC=R+ S+ D+
- 2017: Estimate informed by interpolation between reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). Reported data excluded because 103 percent greater than 100 percent. GoC=R+ S+ D+
- 2016: Estimate informed by reported data. The final results of the 2012 Census were released by the National Institute of Statistics of Rwanda in April 2014. WHO and UNICEF recommend a revision of the reported coverage time series using updated population estimates. GoC=R+S+D+
- 2015: Estimate informed by interpolation between reported data. Reported data excluded because 101 percent greater than 100 percent. GoC=R+S+D+
- 2014: Estimate informed by reported data. GoC=R+S+D+
- 2013: Estimate informed by interpolation between reported data supported by survey. Survey evidence of 98 percent based on 1 survey(s). Reported data excluded because 102 percent greater than 100 percent. GoC=R+S+D+
- 2012: Estimate of 98 percent assigned by working group. Estimate is based on survey results. Reported data excluded because 101 percent greater than 100 percent. The number of children vaccinated with BCG was used as the proxy of target populations for all other antigens. This measure is temporary pending the availability of the 2012 census results. GoC=Assigned by working group.
- 2011: Estimate is based on reported data. Official government estimates of coverage from 2009-2011 are based on the 2010 DHS results of coverage among children 12-23 months of age vaccinated by 12 months of age documented by card or caretaker recall. GoC=R+ S+ D+

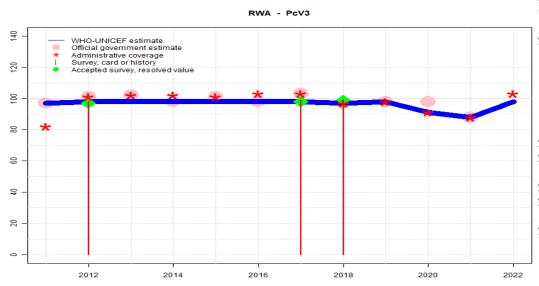


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	50	98	98	98	98	98	98	98	91	89	98
Estimate GoC	NA	••	••	••	•••	•••	•••	•••	•••	•••	••	•
Official	NA	99	102	98	101	98	103	98	98	98	NA	NA
Administrative	NA	99	102	102	104	103	103	98	98	91	89	105
Survey	NA	NA	NA	NA	NA	NA	99	99	NA	NA	NA	NA

- ••• Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 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.

- 2022: Estimate informed by estimated coverage for 2019 following a review of administrative data which suggests similar number of administered doses in 2022 compared to 2019, though estimated coverage for 2022 may overestimate actual coverage. Reported administrative coverage reflects increases in doses administered as well as a 10 percent decline in the target population compared to 2021 based on updated projections from the 2012 census. Reported data excluded because 105 percent greater than 100 percent. Estimate challenged by: R-
- 2021: Estimate informed by reported administrative data. GoC=R+ D+
- 2020: Estimate informed by reported administrative data. Official estimate based on previous year WHO UNICEF estimated coverage. GoC=R+S+D+
- 2019: Estimate informed by reported data. GoC=R+S+D+
- 2018: Estimate informed by reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). GoC=R+S+D+
- 2017: Estimate informed by interpolation between reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). Reported data excluded because 103 percent greater than 100 percent. GoC=R+S+D+
- 2016: Estimate informed by reported data. The final results of the 2012 Census were released by the National Institute of Statistics of Rwanda in April 2014. WHO and UNICEF recommend a revision of the reported coverage time series using updated population estimates. GoC=R+S+D+
- 2015: Estimate informed by interpolation between reported data. Reported data excluded because 101 percent greater than 100 percent. GoC=R+S+D+
- 2014: Estimate informed by reported data. GoC=R+ D+
- 2013: Estimate based on extrapolation from data reported by national government. Reported data excluded because 102 percent greater than 100 percent. GoC=R+D+
- 2012: Ninety nine percent coverage was achieved in children eligible during the last six months of the year. The WHO and UNICEF estimate of 50 percent represents the same doses on an annualized basis. Reported data excluded. The number of children vaccinated with BCG was used as the proxy of target populations for all other antigens. This measure is temporary pending the availability of the 2012 census results. Rotavirus vaccine introduced on 25 May 2012 as part of a three-dose series. GoC=Assigned by working group.



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	97	98	98	98	98	98	98	97	98	91	88	98
Estimate GoC	••	••	•	•••	•••	•••	•••	•••	•••	•••	••	•
Official	97	101	102	98	101	98	103	97	98	98	88	NA
Administrative	82	101	102	102	101	103	103	97	98	91	88	103
Survey	NA	98	NA	NA	NA	NA	99	99	NA	NA	NA	NA

- ••• Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 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.

- 2022: Estimate informed by estimated coverage for 2019 following a review of administrative data which suggests similar number of administered doses in 2022 compared to 2019, though estimated coverage for 2022 may overestimate actual coverage. Reported administrative coverage reflects increases in doses administered as well as a 10 percent decline in the target population compared to 2021 based on updated projections from the 2012 census. Reported data excluded because 103 percent greater than 100 percent. Estimate challenged by: R-
- 2021: Estimate informed by reported data. GoC=R+ D+
- 2020: Estimate informed by reported administrative data. Official estimate based on previous year WHO UNICEF estimated coverage. GoC=R+S+D+
- 2019: Estimate informed by reported data. GoC=R+S+D+
- 2018: Estimate informed by reported data supported by survey. Survey evidence of 99 percent based on 1 survey(s). GoC=R+S+D+
- 2017: Estimate informed by interpolation between reported data supported by survey. Survey evidence of 98 percent based on 1 survey(s). Rwanda Demographic and Health Survey 2019-2020 card or history results of 99 percent modified for recall bias to 98 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 93 percent and 3rd dose card only coverage of 92 percent. Reported data excluded because 103 percent greater than 100 percent. GoC=R+S+D+
- 2016: Estimate informed by reported data. The final results of the 2012 Census were released by the National Institute of Statistics of Rwanda in April 2014. WHO and UNICEF recommend a revision of the reported coverage time series using updated population estimates. GoC=R+S+D+
- 2015: Estimate informed by interpolation between reported data. Reported data excluded because 101 percent greater than 100 percent. GoC=R+ S+ D+
- 2014: Estimate is based on reported data. GoC=R+S+D+
- 2013: Reported data calibrated to 2012 and 2014 levels. Reported data excluded because 102 percent greater than 100 percent. Estimate challenged by: R-
- 2012: Estimate of 98 percent assigned by working group. Estimate is based on survey results. Integrated Post Measles-Rubella campaign and Routine Immunization Coverage Evaluation Survey 2013 card or history results of 98 percent modified for recall bias to 97 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 75 percent and 3rd dose card only coverage of 74 percent. Reported data excluded because 101 percent greater than 100 percent. The number of children vaccinated with BCG was used as the proxy of target populations for all other antigens. This measure is temporary pending the availability of the 2012 census results. GoC=Assigned by working group.
- 2011: Estimate is based on reported data. Official government estimates of coverage from 2009-2011 are based on the 2010 DHS results of coverage among children 12-23 months of age vaccinated by 12 months of age documented by card or caretaker recall. GOC=R+S+

NOTE: A survey to measure vaccination coverage for infants (i.e., children aged 0 to 11 months) will sample children aged 12 to 23 months at the time of survey to capture the youngest annual cohort of children who should have completed the vaccination schedule. Because WUENIC are for infant vaccinations, survey data in this report are presented to reflect the birth year of the youngest survey cohort. For example, results for a survey conducted during December 2020 among children aged 12 to 23 months at the time of the survey reflect the immunization experience of children born in 2019. Depending on the timing of survey field work, results may reflect the immunization experience of children born and vaccinated 1 or 2 years prior to the survey field work.

2018 Rwanda Demographic and Health Survey 2019-2020

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H $<$ 12 months	99.1	$12\text{-}23~\mathrm{m}$	1633	97
BCG	Card	96.7	$12\text{-}23~\mathrm{m}$	1588	97
BCG	Card or History	99.2	$12\text{-}23~\mathrm{m}$	1633	97
BCG	History	2.6	$12\text{-}23~\mathrm{m}$	45	97
DTP1	C or H $<$ 12 months	99.6	$12\text{-}23~\mathrm{m}$	1633	97
DTP1	Card	97.1	$12\text{-}23~\mathrm{m}$	1588	97
DTP1	Card or History	99.6	$12\text{-}23~\mathrm{m}$	1633	97
DTP1	History	2.5	$12\text{-}23 \mathrm{\ m}$	45	97
DTP3	C or H < 12 months	98.8	$12\text{-}23~\mathrm{m}$	1633	97
DTP3	Card	96.7	$12\text{-}23~\mathrm{m}$	1588	97
DTP3	Card or History	99	$12\text{-}23 \mathrm{\ m}$	1633	97
DTP3	History	2.3	$12\text{-}23 \mathrm{\ m}$	45	97
HepB1	C or H < 12 months	99.6	12-23 m	1633	97
HepB1	Card	97.1	$12\text{-}23~\mathrm{m}$	1588	97
HepB1	Card or History	99.6	$12\text{-}23 \mathrm{\ m}$	1633	97
HepB1	History	2.5	$12\text{-}23 \mathrm{\ m}$	45	97
HepB3	C or H < 12 months	98.8	$12\text{-}23~\mathrm{m}$	1633	97
HepB3	Card	96.7	12-23 m	1588	97
HepB3	Card or History	99	$12\text{-}23 \mathrm{\ m}$	1633	97
HepB3	History	2.3	$12\text{-}23 \mathrm{\ m}$	45	97
Hib1	C or H < 12 months	99.6	$12\text{-}23~\mathrm{m}$	1633	97
Hib1	Card	97.1	$12\text{-}23~\mathrm{m}$	1588	97
Hib1	Card or History	99.6	$12\text{-}23 \mathrm{\ m}$	1633	97
Hib1	History	2.5	$12\text{-}23~\mathrm{m}$	45	97

TT'1 0	C II (10)1	00.0	10.00	1000	07
Hib3	C or H <12 months	98.8	12-23 m 12-23 m	1633	97
Hib3	Card	96.7		1588	97
Hib3	Card or History	99	12-23 m	1633	97
Hib3	History	2.3	12-23 m	45	97
IPV1	C or H <12 months	92.2	12-23 m	1633	97
IPV1	Card	90.1	12-23 m	1588	97
IPV1	Card or History	92.4	12-23 m	1633	97
IPV1	History	2.3	12-23 m	45	97
MCV1	C or H <12 months	95.5	12-23 m	1633	97
MCV1	Card	95.2	12-23 m	1588	97
MCV1	Card or History	97.8	12-23 m	1633	97
MCV1	History	2.5	12-23 m	45	97
MCV2	C or H < 12 months	92.4	$24-35 \mathrm{m}$	1631	97
MCV2	Card	88.1	$24-35 \mathrm{\ m}$	1516	97
MCV2	Card or History	93.8	$24\text{-}35~\mathrm{m}$	1631	97
MCV2	History	5.7	$24-35 \mathrm{\ m}$	115	97
PCV1	C or H $<$ 12 months	99.6	$12\text{-}23~\mathrm{m}$	1633	97
PCV1	Card	97.1	$12\text{-}23~\mathrm{m}$	1588	97
PCV1	Card or History	99.6	$12\text{-}23~\mathrm{m}$	1633	97
PCV1	History	2.5	12-23 m	45	97
PCV3	C or H <12 months	98.6	12-23 m	1633	97
PCV3	Card	96.6	12-23 m	1588	97
PCV3	Card or History	98.8	$12-23 \mathrm{m}$	1633	97
PCV3	History	2.3	12-23 m	45	97
Pol1	C or $H < 12$ months	99.6	12-23 m	1633	97
Pol1	Card	97.1	12-23 m	1588	97
Pol1	Card or History	99.6	12-23 m	1633	97
Pol1	History	2.5	$12-23 \mathrm{m}$	45	97
Pol3	C or H <12 months	97.6	12-23 m	1633	97
Pol3	Card	96.4	12-23 m	1588	97
Pol3	Card or History	97.7	12-23 m	1633	97
Pol3	History	1.3	12-23 m	45	97
RotaC	C or H <12 months	98.7	12-23 m	1633	97
RotaC	Card	96.8	12-23 m	1588	97
RotaC	Card or History	99.3	12-23 m	1633	97
RotaC	History	$\frac{33.5}{2.5}$	12-23 m	45	97
10000	1115001 y	2.0	12-20 111	10	91

2017 Rwanda Demographic and Health Survey 2019-2020

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen	PCV1	History	6.8	$24-35 \mathrm{\ m}$	115	97
BCG	C or H $<$ 12 months	98.6	24-35 m	1631	97	PCV3	C or H <12 months	97.9	$24-35 \mathrm{\ m}$	1631	97
BCG	Card	92.4	$24-35 \mathrm{\ m}$	1516	97	PCV3	Card	92.3	$24-35 \mathrm{\ m}$	1516	97
BCG	Card or History	99.2	$24-35 \mathrm{\ m}$	1631	97	PCV3	Card or History	98.6	$24-35 \mathrm{\ m}$	1631	97
BCG	History	6.9	$24-35 \mathrm{\ m}$	115	97	PCV3	History	6.3	$24-35 \mathrm{\ m}$	115	97
DTP1	C or H <12 months	99.3	$24-35 \mathrm{\ m}$	1631	97	Pol1	C or H <12 months	99.1	$24-35 \mathrm{\ m}$	1631	97
DTP1	Card	92.7	$24\text{-}35~\mathrm{m}$	1516	97	Pol1	Card	92.7	$24-35~\mathrm{m}$	1516	97
DTP1	Card or History	99.5	$24\text{-}35~\mathrm{m}$	1631	97	Pol1	Card or History	99.3	$24\text{-}35~\mathrm{m}$	1631	97
DTP1	History	6.7	$24\text{-}35~\mathrm{m}$	115	97	Pol1	History	6.5	$24-35~\mathrm{m}$	115	97
DTP3	C or H $<$ 12 months	97.9	$24\text{-}35~\mathrm{m}$	1631	97	Pol3	C or H $<$ 12 months	95.7	$24\text{-}35~\mathrm{m}$	1631	97
DTP3	Card	92.6	$24\text{-}35~\mathrm{m}$	1516	97	Pol3	Card	92.5	$24\text{-}35~\mathrm{m}$	1516	97
DTP3	Card or History	98.7	$24\text{-}35~\mathrm{m}$	1631	97	Pol3	Card or History	95.9	$24\text{-}35~\mathrm{m}$	1631	97
DTP3	History	6.1	$24\text{-}35~\mathrm{m}$	115	97	Pol3	History	3.5	$24\text{-}35~\mathrm{m}$	115	97
HepB1	C or H $<$ 12 months	99.3	$24\text{-}35~\mathrm{m}$	1631	97	RotaC	C or H $<$ 12 months	97.8	$24\text{-}35~\mathrm{m}$	1631	97
HepB1	Card	92.7	$24\text{-}35~\mathrm{m}$	1516	97	RotaC	Card	92.2	$24\text{-}35~\mathrm{m}$	1516	97
HepB1	Card or History	99.5	$24\text{-}35~\mathrm{m}$	1631	97	RotaC	Card or History	98.8	$24\text{-}35~\mathrm{m}$	1631	97
HepB1	History	6.7	$24\text{-}35~\mathrm{m}$	115	97	RotaC	History	6.5	$24\text{-}35~\mathrm{m}$	115	97
HepB3	C or H $<$ 12 months	97.9	$24\text{-}35~\mathrm{m}$	1631	97						
HepB3	Card	92.6	$24\text{-}35~\mathrm{m}$	1516	97	0012 D	. 1. D 1.	. 1 TT	141 C	0014	1 5
HepB3	Card or History	98.7	$24\text{-}35~\mathrm{m}$	1631	97	2013 RV	vanda Demographic	and Hea	aith Surve	y 2014-	·15
HepB3	History	6.1	$24\text{-}35~\mathrm{m}$	115	97						
Hib1	C or H $<$ 12 months	99.3	$24\text{-}35~\mathrm{m}$	1631	97	Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
Hib1	Card	92.7	24-35 m	1516	97	BCG	C or H $<$ 12 months	98.9	12-23 m	1581	94
Hib1	Card or History	99.5	$24-35 \mathrm{m}$	1631	97	BCG	Card	93.6	12-23 m	1485	94
Hib1	History	6.7	$24-35 \mathrm{m}$	115	97	BCG	Card or History	98.9	$12\text{-}23 \mathrm{\ m}$	1581	94
Hib3	C or H < 12 months	97.9	24-35 m	1631	97	BCG	History	5.3	12-23 m	96	94
Hib3	Card	92.6	$24-35 \mathrm{m}$	1516	97	DTP1	C or $H < 12$ months	98.9	12-23 m	1581	94
Hib3	Card or History	98.7	24-35 m	1631	97	DTP1	Card	93.8	12-23 m	1485	94
Hib3	History	6.1	$24-35 \mathrm{m}$	115	97	DTP1	Card or History	99.1	12-23 m	1581	94
IPV1	C or H $<$ 12 months	79.4	24-35 m	1631	97	DTP1	History	5.3	12-23 m	96	94
IPV1	Card	75.1	24-35 m	1516	97	DTP3	C or $H < 12$ months	98.1	12-23 m	1581	94
IPV1	Card or History	79.8	$24-35 \mathrm{m}$	1631	97	DTP3	Card	93.2	12-23 m	1485	94
IPV1	History	4.7	$24-35 \mathrm{m}$	115	97	DTP3	Card or History	98.1	$12\text{-}23 \mathrm{\ m}$	1581	94
MCV1	C or H < 12 months	95.4	24-35 m	1631	97	DTP3	History	5	12-23 m	96	94
MCV1	Card	91.9	24-35 m	1516	97	HepB1	C or $H < 12$ months	98.9	12-23 m	1581	94
MCV1	Card or History	98.3	$24\text{-}35~\mathrm{m}$	1631	97	HepB1	Card	93.8	12-23 m	1485	94
MCV1	History	6.4	$24\text{-}35~\mathrm{m}$	115	97	HepB1	Card or History	99.1	$12\text{-}23~\mathrm{m}$	1581	94
PCV1	C or H $<$ 12 months	99.3	$24\text{-}35~\mathrm{m}$	1631	97	-	History	5.3	$12\text{-}23~\mathrm{m}$	96	94
PCV1	Card	92.7	$24\text{-}35~\mathrm{m}$	1516	97	HepB3	C or $H < 12$ months	98.1	$12\text{-}23~\mathrm{m}$	1581	94
PCV1	Card or History	99.4	$24\text{-}35~\mathrm{m}$	1631	97	HepB3		93.2	$12\text{-}23~\mathrm{m}$	1485	94
						-					

НерВ3	Card or History	98.1	12-23 m	1581	94
HepB3	History	5	12-23 m	96	94
Hib1	C or $H < 12$ months	98.9	12-23 m	1581	94
Hib1	Card	93.8	12-23 m	1485	94
Hib1	Card or History	99.1	12-23 m	1581	94
Hib1	History	5.3	$12\text{-}23~\mathrm{m}$	96	94
Hib3	C or $H < 12$ months	98.1	$12\text{-}23~\mathrm{m}$	1581	94
Hib3	Card	93.2	12-23 m	1485	94
Hib3	Card or History	98.1	12-23 m	1581	94
Hib3	History	5	$12\text{-}23~\mathrm{m}$	96	94
MCV1	C or H $<$ 12 months	88.7	$12\text{-}23~\mathrm{m}$	1581	94
MCV1	Card	90.1	$12\text{-}23~\mathrm{m}$	1485	94
MCV1	Card or History	95.2	$12\text{-}23~\mathrm{m}$	1581	94
MCV1	History	5.1	$12\text{-}23~\mathrm{m}$	96	94
Pol1	C or H $<$ 12 months	99	$12\text{-}23~\mathrm{m}$	1581	94
Pol1	Card	93.9	$12\text{-}23~\mathrm{m}$	1485	94
Pol1	Card or History	99.1	$12\text{-}23~\mathrm{m}$	1581	94
Pol1	History	5.2	$12\text{-}23~\mathrm{m}$	96	94
Pol3	C or H $<$ 12 months	96.6	$12\text{-}23~\mathrm{m}$	1581	94
Pol3	Card	93.2	$12\text{-}23~\mathrm{m}$	1485	94
Pol3	Card or History	96.6	$12\text{-}23~\mathrm{m}$	1581	94
Pol3	History	3.4	$12\text{-}23~\mathrm{m}$	96	94

2012 Integrated Post Measles-Rubella campaign and Routine Immunization Coverage Evaluation Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	${\bf Cards\ seen}$
BCG	Card	99	$12\text{-}23~\mathrm{m}$	-	80
BCG	Card or History	99	$12\text{-}23~\mathrm{m}$	8563	80
BCG	Scar	98	$12\text{-}23~\mathrm{m}$	-	80
DTP1	Card	75	$12\text{-}23~\mathrm{m}$	_	80
DTP1	Card or History	99	$12\text{-}23~\mathrm{m}$	8563	80
DTP3	Card	74	$12\text{-}23~\mathrm{m}$	-	80
DTP3	Card or History	98	$12\text{-}23 \mathrm{\ m}$	8563	80
HepB1	Card	75	$12\text{-}23~\mathrm{m}$	_	80
HepB1	Card or History	99	$12\text{-}23 \mathrm{\ m}$	8563	80
HepB3	Card	74	$12\text{-}23~\mathrm{m}$	_	80
HepB3	Card or History	98	12-23 m	8563	80
Hib1	Card	75	12-23 m	-	80

Hib1	Card or History	99	$12\text{-}23~\mathrm{m}$	8563	80
Hib3	Card	74	$12\text{-}23~\mathrm{m}$	-	80
Hib3	Card or History	98	$12\text{-}23~\mathrm{m}$	8563	80
MCV1	Card	71	$12\text{-}23~\mathrm{m}$	-	80
MCV1	Card or History	97	$12\text{-}23~\mathrm{m}$	8563	80
PcV1	Card	75	$12\text{-}23~\mathrm{m}$	-	80
PcV1	Card or History	98	$12\text{-}23~\mathrm{m}$	8563	80
PcV3	Card	73.9	12-23 m	-	80
PcV3	Card or History	98	$12\text{-}23~\mathrm{m}$	8563	80
Pol3	Card	74	12-23 m	-	80
Pol3	Card or History	98	$12\text{-}23~\mathrm{m}$	8563	80

2012 Rwanda Demographic and Health Survey 2014-15

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H $<$ 12 months	98.6	$24-35 \mathrm{\ m}$	1555	94
DTP1	C or H $<$ 12 months	98.5	$24-35 \mathrm{\ m}$	1555	94
DTP3	C or H $<$ 12 months	97.6	$24-35 \mathrm{\ m}$	1555	94
HepB1	C or H $<$ 12 months	98.5	$24-35 \mathrm{\ m}$	1555	94
HepB3	C or H $<$ 12 months	97.6	$24-35 \mathrm{\ m}$	1555	94
Hib1	C or H $<$ 12 months	98.5	$24\text{-}35~\mathrm{m}$	1555	94
Hib3	C or H $<$ 12 months	97.6	$24\text{-}35~\mathrm{m}$	1555	94
MCV1	C or H $<$ 12 months	91.6	$24-35 \mathrm{\ m}$	1555	94
Pol1	C or H $<$ 12 months	98.6	$24-35 \mathrm{\ m}$	1555	94
Pol3	C or H $<$ 12 months	94.5	$24\text{-}35~\mathrm{m}$	1555	94

2011 Rwanda Demographic and Health Survey 2014-15

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H $<$ 12 months	98.3	$36\text{-}47~\mathrm{m}$	1602	94
DTP1	C or H $<$ 12 months	98.7	$36\text{-}47~\mathrm{m}$	1602	94
DTP3	C or H $<$ 12 months	97.3	$36-47~\mathrm{m}$	1602	94
HepB1	C or H $<$ 12 months	98.7	$36-47~\mathrm{m}$	1602	94
HepB3	C or H $<$ 12 months	97.3	$36-47~\mathrm{m}$	1602	94
Hib1	C or H $<$ 12 months	98.7	$36-47 \mathrm{m}$	1602	94
Hib3	C or H $<$ 12 months	97.3	$36-47 \mathrm{m}$	1602	94
MCV1	C or H $<$ 12 months	90.7	36-47 m	1602	94

Pol1	C or H <12 months	98.6	36-47 m	1602	94	НерВ3	Card	80.9	12-23 m	1616	82
Pol3	C or H <12 months	94.2	36-47 m	1602	94	НерВ3	Card or History	96.8	12-23 m	1616	82
P015	C or H <12 months	94.2	30-47 III	1002	94		·				-
						-	History	15.9	12-23 m	1616	82
0010 D	1.5	1 77	1.1 C	2014	1.5	Hib1	C or H $<$ 12 months	98.5	12-23 m	1616	82
2010 Rv	vanda Demographic	and Hea	ath Survey	y 2014	15	Hib1	Card	82.2	12-23 m	1616	82
						Hib1	Card or History	98.8	$12\text{-}23 \mathrm{\ m}$	1616	82
T. .		~		G 1	G 1	Hib1	History	16.7	12-23 m	1616	82
	Confirmation method	_	_	-		Hib3	C or H <12 months	96.3	12-23 m	1616	82
BCG			48-59 m	-	94	Hib3	Card	80.9	12-23 m	1616	82
DTP1	C or H < 12 months	98	48-59 m	1314	94	Hib3	Card or History	96.8	12-23 m	1616	82
DTP3	C or H < 12 months	96.5	48-59 m	1314	94	Hib3	History	15.9	12-23 m	1616	82
HepB1	C or H < 12 months	98	$48\text{-}59~\mathrm{m}$	1314	94	MCV1	C or H <12 months	90.3	12-23 m	1616	82
HepB3	C or H < 12 months	96.5	$48-59 \mathrm{m}$	1314	94	MCV1 MCV1	Card	90.5 79	12-23 m	1616	82
Hib1	C or H $<$ 12 months	98	48-59 m	1314	94				_		-
Hib3	C or H <12 months	96.5	48-59 m	1314	94	MCV1	Card or History	95	12-23 m	1616	82
MCV1	C or H <12 months		48-59 m	1314	94		History	16	12-23 m	1616	82
Pol1	C or H <12 months	98	48-59 m	1314	94	Pol1	C or H $<$ 12 months	98.9	12-23 m	1616	82
Pol3	C or H <12 months				94	Pol1	Card	82.2	12-23 m	1616	82
P015	C or H <12 months	91	48-59 m	1314	94	Pol1	Card or History	99.2	12-23 m	1616	82
						Pol1	History	17	12-23 m	1616	82
2000 D		J II	141- C	- 2010		Pol3	C or H <12 months	92.8	12-23 m	1616	82
2009 RV	vanda Demographic	апа пеа	uun Survey	y 2010		Pol3	Card	81	12-23 m	1616	82
						Pol3	Card or History	93.3	12-23 m	1616	82
						- 010	Cara or minori	55.5		-010	~ -

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H $<$ 12 months	98.9	12-23 m	1616	82
BCG	Card	82.1	$12\text{-}23 \mathrm{\ m}$	1616	82
BCG	Card or History	99.1	$12\text{-}23 \mathrm{\ m}$	1616	82
BCG	History	17	$12\text{-}23 \mathrm{\ m}$	1616	82
DTP1	C or H $<$ 12 months	98.5	$12\text{-}23~\mathrm{m}$	1616	82
DTP1	Card	82.2	$12\text{-}23 \mathrm{\ m}$	1616	82
DTP1	Card or History	98.8	$12\text{-}23 \mathrm{\ m}$	1616	82
DTP1	History	16.7	$12\text{-}23 \mathrm{\ m}$	1616	82
DTP3	C or H <12 months	96.3	$12\text{-}23 \mathrm{\ m}$	1616	82
DTP3	Card	80.9	$12\text{-}23~\mathrm{m}$	1616	82
DTP3	Card or History	96.8	$12\text{-}23~\mathrm{m}$	1616	82
DTP3	History	15.9	$12\text{-}23~\mathrm{m}$	1616	82
HepB1	C or H $<$ 12 months	98.5	$12\text{-}23 \mathrm{\ m}$	1616	82
HepB1	Card	82.2	$12\text{-}23 \mathrm{\ m}$	1616	82
HepB1	Card or History	98.8	$12\text{-}23 \mathrm{\ m}$	1616	82
HepB1	History	16.7	$12\text{-}23~\mathrm{m}$	1616	82
HepB3	C or H <12 months	96.3	12-23 m	1616	82

2007 Rwanda Interim Demographic and Health Survey 2007-08

12-23 m

1616

82

12.3

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	95.2	12-23 m	1226	67
BCG	Card	66.8	12-23 m	1226	67
BCG	Card or History	95.5	12-23 m	1226	67
BCG	History	28.7	$12-23 \mathrm{m}$	1226	67
DTP1	C or H $<$ 12 months	94.3	$12\text{-}23~\mathrm{m}$	1226	67
DTP1	Card	66.8	$12\text{-}23~\mathrm{m}$	1226	67
DTP1	Card or History	94.8	$12\text{-}23~\mathrm{m}$	1226	67
DTP1	History	28.1	$12\text{-}23~\mathrm{m}$	1226	67
DTP3	C or H $<$ 12 months	88.5	$12\text{-}23~\mathrm{m}$	1226	67
DTP3	Card	66.1	$12\text{-}23~\mathrm{m}$	1226	67
DTP3	Card or History	89.8	$12\text{-}23~\mathrm{m}$	1226	67
DTP3	History	23.7	$12\text{-}23~\mathrm{m}$	1226	67

Pol3

History

HepB1	C or H $<$ 12 months	94.3	12-23 m	1226	67
HepB1	Card	66.8	12-23 m	1226	67
HepB1	Card or History	94.8	12-23 m	1226	67
HepB1	History	28.1	12-23 m	1226	67
HepB3	C or H $<$ 12 months	88.5	12-23 m	1226	67
HepB3	Card	66.1	12-23 m	1226	67
HepB3	Card or History	89.8	12-23 m	1226	67
HepB3	History	23.7	12-23 m	1226	67
Hib1	C or H $<$ 12 months	94.3	12-23 m	1226	67
Hib1	Card	66.8	$12\text{-}23~\mathrm{m}$	1226	67
Hib1	Card or History	94.8	$12\text{-}23 \mathrm{\ m}$	1226	67
Hib1	History	28.1	12-23 m	1226	67
Hib3	C or H $<$ 12 months	88.5	$12\text{-}23~\mathrm{m}$	1226	67
Hib3	Card	66.1	$12\text{-}23~\mathrm{m}$	1226	67
Hib3	Card or History	89.8	$12\text{-}23 \mathrm{\ m}$	1226	67
Hib3	History	23.7	12-23 m	1226	67
MCV1	C or H $<$ 12 months	82.9	$12\text{-}23~\mathrm{m}$	1226	67
MCV1	Card	64.1	$12\text{-}23~\mathrm{m}$	1226	67
MCV1	Card or History	90.4	$12\text{-}23 \mathrm{\ m}$	1226	67
MCV1	History	26.3	$12\text{-}23~\mathrm{m}$	1226	67
Pol1	C or H $<$ 12 months	94.9	$12\text{-}23~\mathrm{m}$	1226	67
Pol1	Card	66.9	$12\text{-}23~\mathrm{m}$	1226	67
Pol1	Card or History	95.6	12-23 m	1226	67
Pol1	History	28.7	12-23 m	1226	67
Pol3	C or H $<$ 12 months	84.5	$12\text{-}23~\mathrm{m}$	1226	67
Pol3	Card	65.8	$12\text{-}23~\mathrm{m}$	1226	67
Pol3	Card or History	85.5	$12\text{-}23~\mathrm{m}$	1226	67
Pol3	History	19.7	12-23 m	1226	67

2006 Enqête nationale de couverture vaccinale à Rwanda, 2007

Vaccine	Confirmation method	Coverage	Are cohort	Sample	Cards seen
BCG	Card	93.9	12-23 m	1049	82
BCG	0 012 02	97.8	12-23 m	1049	82
	·		_		~ _
DTP1	Card	98.7	12-23 m	1049	82
DTP1	Card or History	98.7	12-23 m	1049	82
DTP3	Card	96.7	12-23 m	1049	82
DTP3	Card or History	97	12-23 m	1049	82
HepB1	Card	98.7	12-23 m	1049	82

Cord or History	08.7	19 92 m	1040	82
Card of History		12-25 III	1049	02
Card	96.7	12-23 m	1049	82
Card or History	97	$12\text{-}23~\mathrm{m}$	1049	82
Card	98.7	12-23 m	1049	82
Card or History	98.7	$12\text{-}23~\mathrm{m}$	1049	82
Card	96.7	$12\text{-}23~\mathrm{m}$	1049	82
Card or History	97	$12\text{-}23~\mathrm{m}$	1049	82
Card	95.2	$12\text{-}23~\mathrm{m}$	1049	82
Card or History	95.7	12-23 m	1049	82
Card	98.1	$12\text{-}23~\mathrm{m}$	1049	82
Card or History	98.3	$12\text{-}23~\mathrm{m}$	1049	82
Card	97.1	$12\text{-}23~\mathrm{m}$	1049	82
Card or History	97.2	$12\text{-}23~\mathrm{m}$	1049	82
	Card or History Card	Card 96.7 Card or History 97 Card 98.7 Card or History 98.7 Card 96.7 Card or History 97 Card 95.2 Card or History 95.7 Card 98.1 Card or History 98.3 Card 97.1	Card 96.7 12-23 m Card or History 97 12-23 m Card 98.7 12-23 m Card or History 98.7 12-23 m Card 96.7 12-23 m Card or History 97 12-23 m Card 95.2 12-23 m Card or History 95.7 12-23 m Card 98.1 12-23 m Card or History 98.3 12-23 m Card 97.1 12-23 m	Card 96.7 12-23 m 1049 Card or History 97 12-23 m 1049 Card 98.7 12-23 m 1049 Card or History 98.7 12-23 m 1049 Card 96.7 12-23 m 1049 Card or History 97 12-23 m 1049 Card or History 95.7 12-23 m 1049 Card 98.1 12-23 m 1049 Card or History 98.3 12-23 m 1049 Card 97.1 12-23 m 1049

2004 Rwanda Demographic and Health Survey 2005

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H $<$ 12 months	96.4	$12\text{-}23 \mathrm{\ m}$	1626	76
BCG	Card	75.1	$12\text{-}23 \mathrm{\ m}$	1626	76
BCG	Card or History	96.5	$12\text{-}23 \mathrm{\ m}$	1626	76
BCG	History	21.3	$12\text{-}23 \mathrm{\ m}$	1626	76
DTP1	C or H $<$ 12 months	96.5	$12\text{-}23 \mathrm{\ m}$	1626	76
DTP1	Card	75.7	$12\text{-}23 \mathrm{\ m}$	1626	76
DTP1	Card or History	96.8	$12\text{-}23 \mathrm{\ m}$	1626	76
DTP1	History	21.1	$12\text{-}23~\mathrm{m}$	1626	76
DTP3	C or H $<$ 12 months	86.4	$12\text{-}23 \mathrm{\ m}$	1626	76
DTP3	Card	72.7	$12\text{-}23 \mathrm{\ m}$	1626	76
DTP3	Card or History	87	$12\text{-}23 \mathrm{\ m}$	1626	76
DTP3	History	14.3	$12\text{-}23 \mathrm{\ m}$	1626	76
MCV1	C or H $<$ 12 months	79.4	$12\text{-}23 \mathrm{\ m}$	1626	76
MCV1	Card	66.9	$12\text{-}23 \mathrm{\ m}$	1626	76
MCV1	Card or History	85.6	$12-23 \mathrm{\ m}$	1626	76
MCV1	History	18.7	$12-23 \mathrm{\ m}$	1626	76
Pol1	C or H $<$ 12 months	96.2	$12\text{-}23 \mathrm{\ m}$	1626	76
Pol1	Card	75.6	$12\text{-}23 \mathrm{\ m}$	1626	76
Pol1	Card or History	96.5	$12\text{-}23 \mathrm{\ m}$	1626	76
Pol1	History	20.9	$12\text{-}23 \mathrm{\ m}$	1626	76
Pol3	C or H $<$ 12 months	83.7	$12\text{-}23 \mathrm{\ m}$	1626	76
Pol3	Card	72.7	12-23 m	1626	76

Pol3	Card or History	84.3	$12\text{-}23~\mathrm{m}$	1626	76
Pol3	History	11.6	$12\text{-}23~\mathrm{m}$	1626	76

2002 Rwanda, Evaluation de la campagne contre la rougeole et la vaccination de routine, 2003 - documentation not available

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H $<$ 12 months	99	$12\text{-}23~\mathrm{m}$	-	79
DTP1	C or H $<$ 12 months	97	$12\text{-}23~\mathrm{m}$	-	79
DTP3	C or H < 12 months	92	12-23 m	-	79
MCV1	C or H < 12 months	92	$12\text{-}23~\mathrm{m}$	-	79
Pol3	C or H $<$ 12 months	87	12-23 m	-	79

1999 Enquête à Indicateurs Multiples (MICS2), Rapport Final, 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	71.2	$12\text{-}23~\mathrm{m}$	596	72
BCG	Card or History	90.7	$12\text{-}23~\mathrm{m}$	596	72
BCG	History	19.6	$12\text{-}23~\mathrm{m}$	596	72
DTP1	Card	70.3	$12\text{-}23~\mathrm{m}$	596	72
DTP1	Card or History	90.3	$12\text{-}23~\mathrm{m}$	596	72
DTP1	History	19.9	$12\text{-}23~\mathrm{m}$	596	72
DTP3	Card	67.8	$12\text{-}23~\mathrm{m}$	596	72
DTP3	Card or History	80.9	$12\text{-}23~\mathrm{m}$	596	72
DTP3	History	13.8	$12\text{-}23~\mathrm{m}$	596	72
MCV1	Card	62.7	$12\text{-}23~\mathrm{m}$	596	72
MCV1	Card or History	82.1	$12\text{-}23 \mathrm{\ m}$	596	72
MCV1	History	19.4	$12\text{-}23~\mathrm{m}$	596	72
Pol1	Card	70.1	$12\text{-}23~\mathrm{m}$	596	72
Pol1	Card or History	91.5	$12\text{-}23~\mathrm{m}$	596	72
Pol1	History	20.9	$12\text{-}23~\mathrm{m}$	596	72
Pol3	Card	68.4	$12\text{-}23~\mathrm{m}$	596	72
Pol3	Card or History	79.8	$12\text{-}23~\mathrm{m}$	596	72
Pol3	History	11.4	12-23 m	596	72

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	Confirmation method	_	_		
BCG	C or H <12 months	96.5	12-23 m	1330	66
BCG	Card	65.6	12-23 m	1330	66
BCG	Card or History	97	12-23 m	1330	66
BCG	History	31.4	12-23 m	1330	66
DTP1	C or H < 12 months	94.9	$12-23 \mathrm{m}$	1330	66
DTP1	Card	65.5	12-23 m	1330	66
DTP1	Card or History	95.5	$12\text{-}23 \mathrm{\ m}$	1330	66
DTP1	History	30	$12\text{-}23~\mathrm{m}$	1330	66
DTP3	C or H < 12 months	84.9	$12\text{-}23~\mathrm{m}$	1330	66
DTP3	Card	63.2	$12\text{-}23~\mathrm{m}$	1330	66
DTP3	Card or History	86	$12\text{-}23 \mathrm{\ m}$	1330	66
DTP3	History	22.9	$12\text{-}23 \mathrm{\ m}$	1330	66
MCV1	C or H $<$ 12 months	79.9	$12\text{-}23~\mathrm{m}$	1330	66
MCV1	Card	59.1	$12\text{-}23~\mathrm{m}$	1330	66
MCV1	Card or History	86.9	$12\text{-}23~\mathrm{m}$	1330	66
MCV1	History	27.8	$12\text{-}23 \mathrm{\ m}$	1330	66
Pol1	C or H <12 months	95.9	$12\text{-}23 \mathrm{\ m}$	1330	66
Pol1	Card	65.7	$12\text{-}23 \mathrm{\ m}$	1330	66
Pol1	Card or History	96.5	$12\text{-}23 \mathrm{\ m}$	1330	66
Pol1	History	30.8	$12\text{-}23 \mathrm{\ m}$	1330	66
Pol3	C or H <12 months	86.8	$12-23~\mathrm{m}$	1330	66
Pol3	Card	63.8	$12-23~\mathrm{m}$	1330	66
Pol3	Card or History	87.6	$12-23 \mathrm{m}$	1330	66
Pol3	History	23.7	12-23 m	1330	66
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Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H $<$ 12 months	93.8	$24\text{-}35~\mathrm{m}$	1232	66
DTP1	C or H $<$ 12 months	90.9	$24\text{-}35~\mathrm{m}$	1232	66
DTP3	C or H < 12 months	78.6	$24-35~\mathrm{m}$	1232	66
MCV1	C or H < 12 months	80.5	$24-35~\mathrm{m}$	1232	66
Pol1	C or H < 12 months	93.4	$24-35 \mathrm{m}$	1232	66
Pol3	C or H < 12 months	79.7	$24-35 \mathrm{m}$	1232	66

1998 Rapport d'Evaluation de la Couverture Vaccinale au Niveau des Onze

Regions	Sanitaires,	Mai-Juni	1999
regions	Danitanes,	mai-jum	1999

1997 Enquête Démographique et de Santé Rwanda 2000 (EDSR-II), 2001

Vaccine	Confirmation method	Coverage	Age cohort	t Sample	Cards seen	Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	94	$12\text{-}23~\mathrm{m}$	-	-	BCG	C or H $<$ 12 months	95.7	$36\text{-}47~\mathrm{m}$	1297	66
DTP1	Card or History	93	$12\text{-}23~\mathrm{m}$	-	-	DTP1	C or H $<$ 12 months	91.9	$36\text{-}47~\mathrm{m}$	1297	66
DTP3	Card or History	85	$12\text{-}23~\mathrm{m}$	-	_	DTP3	C or H $<$ 12 months	79.5	$36\text{-}47~\mathrm{m}$	1297	66
MCV1	Card or History	78	$12\text{-}23~\mathrm{m}$	-	_	MCV1	C or H $<$ 12 months	73.6	$36\text{-}47~\mathrm{m}$	1297	66
Pol1	Card or History	93	$12\text{-}23~\mathrm{m}$	-	-	Pol1	C or H $<$ 12 months	94	$36\text{-}47~\mathrm{m}$	1297	66
Pol3	Card or History	85	$12\text{-}23~\mathrm{m}$	-	-	Pol3	C or H $<$ 12 months	81.7	$36\text{-}47~\mathrm{m}$	1297	66

Further information and estimates for previous years are available at:

https://data.unicef.org/topic/child-health/immunization/

https://immunizationdata.who.int/listing.html