Mali: WHO and UNICEF estimates of immunization coverage: 2022 revision

BCG, DTP1, DTP3, Pol3, MCV1, HepB3, Hib3, RotaC, PcV3 — immunization coverage charts, 2012–2022

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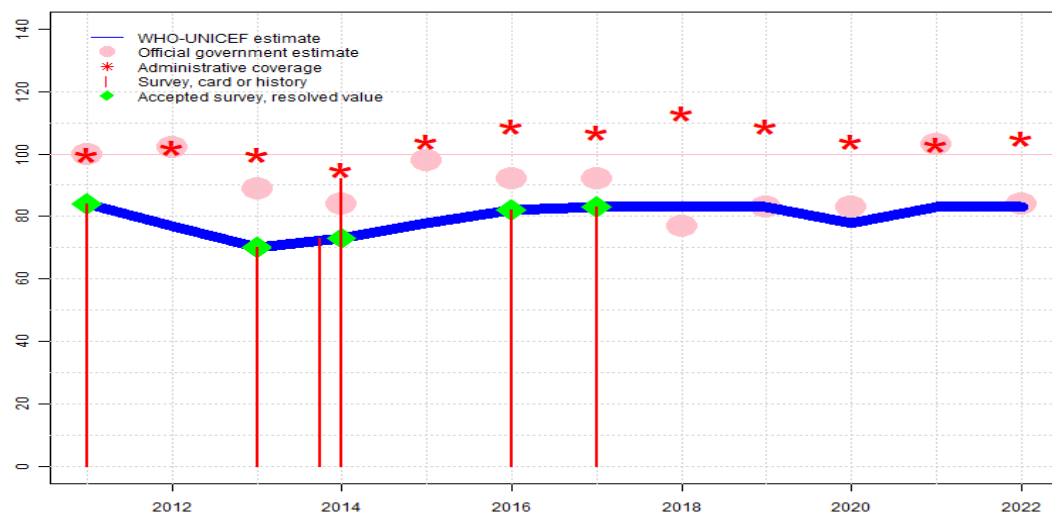
PcV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

Mali - BCG

MLI - BCG

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	84	77	70	73	78	82	83	83	83	78	83	83
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	100	102	89	84	98	92	92	77	83	83	103	84
Administrative	100	102	100	95	104	109	107	113	109	104	103	105
Survey	84	NA	70	*	NA	82	83	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: 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:

2022: Reported data calibrated to 2017 levels. Reported data excluded due to sudden change in coverage from 103 level to 84 percent. Vaccination coverage survey conducted in 2022 for two districts in the capital city. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Reported data excluded because 103 percent greater than 100 percent. Reported data excluded due to an increase from 83 percent to 103 percent with decrease 84 percent. Estimate challenged by: D-R-

2020: Estimate exceptionally based on the difference between administrative coverage 2019 to 2020 applied to the 2019 WUENIC estimate. Reported data excluded. Programme reports disruptions in performance related to insecurity and reductions in attendance to vaccination sessions related to the COVID-19 pandemic, especially in urban areas. Also issues with incomplete reporting linked to problems with connectivity. Programme reports a national and subnational level vaccine stockout of less than a month. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported data excluded. . Programme notes that official estimates are based on the results of the 2018 Demographic and Health Survey. Programme reports subnational vaccine stockouts for most antigens. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Reported data excluded. . Estimate challenged by: D-R-

2017: Estimate of 83 percent assigned by working group. Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: D-R-

2016: Estimate of 82 percent assigned by working group. Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: D-R-

2015: Reported data calibrated to 2014 and 2016 levels. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 73 percent based on 1 survey(s). Expanded Programme of Immunization External Review, 2016 results ignored by working group. Coverage by card is higher than cards seen and other inconsistencies such as coverage with final doses higher than earlier doses in the series. Also, EPI survey results inconsistent with MICS for the same cohort and previous surveys.Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 70 percent based on 1 survey(s). Estimate challenged by: D-R-S-
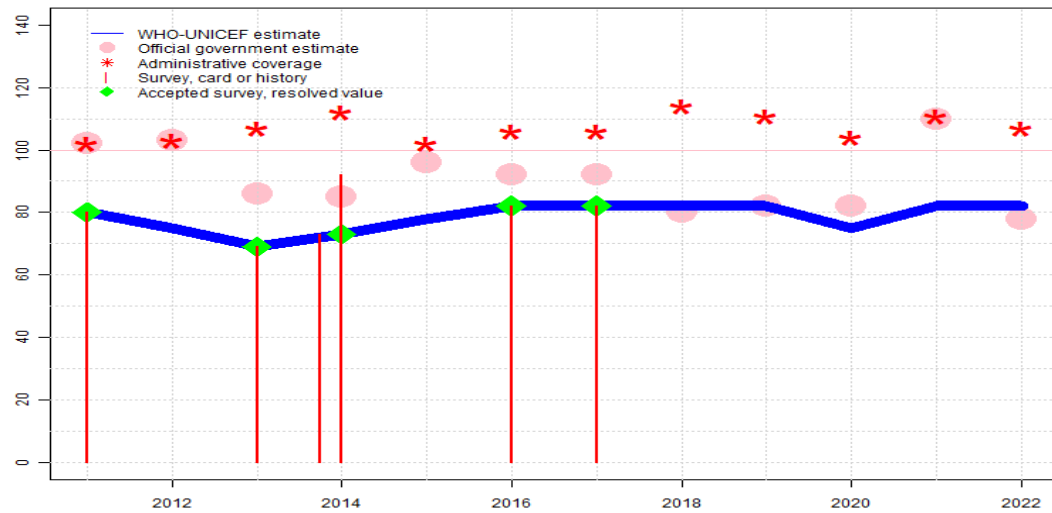
2012: Estimate informed by interpolation between 2011 and 2013 levels. Estimates based on survey results. Reported data excluded because 102 percent greater than 100 percent. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 84 percent based on 1 survey(s). Estimate challenged by: R-S-

Mali - DTP1

MLI - DTP1

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	80	75	69	73	78	82	82	82	82	75	82	82
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	102	103	86	85	96	92	92	80	82	82	110	78
Administrative	102	103	107	112	102	106	106	114	111	104	111	107
Survey	80	NA	69	*	NA	82	82	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: 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:

2022: Reported data calibrated to 2017 levels. Reported data excluded due to sudden change in coverage from 110 level to 78 percent. Vaccination coverage survey conducted in 2022 for two districts in the capital city. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Reported data excluded because 110 percent greater than 100 percent. Reported data excluded due to an increase from 82 percent to 110 percent with decrease 78 percent. Estimate challenged by: D-R-

2020: Estimate exceptionally based on the difference between administrative coverage 2019 to 2020 applied to the 2019 WUENIC estimate. Reported data excluded. Programme reports disruptions in performance related to insecurity and reductions in attendance to vaccination sessions related to the COVID-19 pandemic, especially in urban areas. Also issues with incomplete reporting linked to problems with connectivity. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported data excluded. . Programme notes that official estimates are based on the results of the 2018 Demographic and Health Survey. Programme reports subnational vaccine stockouts for most antigens. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Reported data excluded. . Estimate challenged by: D-R-

2017: Estimate of 82 percent assigned by working group. Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: D-R-

2016: Estimate of 82 percent assigned by working group. Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Programme reports one month vaccine stockout. Estimate challenged by: D-R-

2015: Reported data calibrated to 2014 and 2016 levels. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 73 percent based on 1 survey(s). Expanded Programme of Immunization External Review, 2016 results ignored by working group. Coverage by card is higher than cards seen and other inconsistencies such as coverage with final doses higher than earlier doses in the series. Also, EPI survey results inconsistent with MICS for the same cohort and previous surveys.Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 69 percent based on 1 survey(s). Estimate challenged by: D-R-S-

2012: Estimate informed by interpolation between 2011 and 2013 levels. Estimates based on
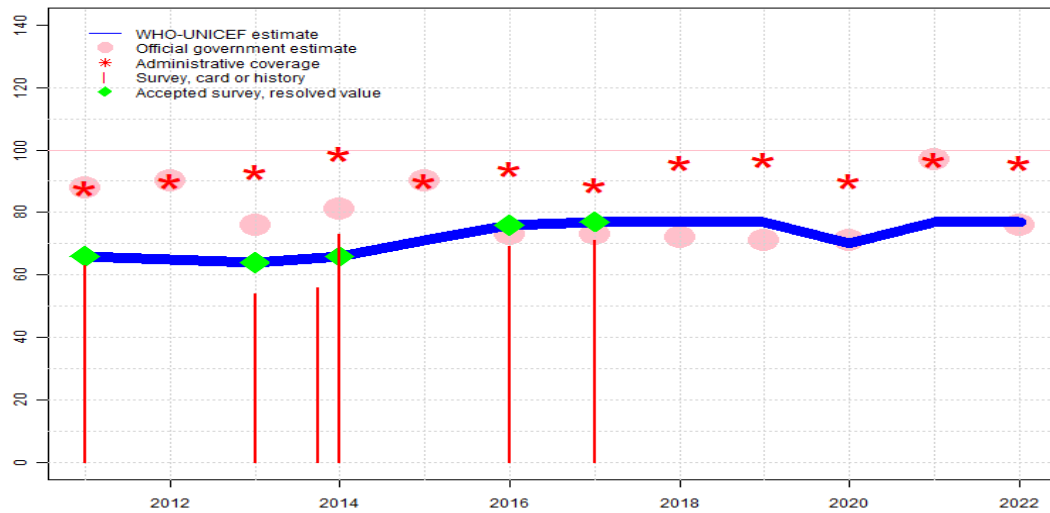
survey results. Reported data excluded because 103 percent greater than 100 percent. Estimate challenged by: D-R-

2011: Estimate of 80 percent assigned by working group. Estimate based on survey results. Reported data excluded because 102 percent greater than 100 percent. Estimate challenged by: D-R-S-

Mali - DTP3

MLI - DTP3

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	66	65	64	66	71	76	77	77	77	70	77	77
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	88	90	76	81	90	73	73	72	71	71	97	76
Administrative	88	90	93	99	90	94	89	96	97	90	97	96
Survey	63	NA	54	*	NA	69	71	NA	NA	NA	NA	NA

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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 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.

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

2022: Reported data calibrated to 2017 levels. Reported data excluded due to sudden change in coverage from 97 level to 76 percent. Vaccination coverage survey conducted in 2022 for two districts in the capital city. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Reported data excluded due to an increase from 71 percent to 97 percent with decrease 76 percent. Estimate challenged by: D-R-

2020: Estimate exceptionally based on the difference between administrative coverage 2019 to 2020 applied to the 2019 WUENIC estimate. Reported data excluded. Programme reports disruptions in performance related to insecurity and reductions in attendance to vaccination sessions related to the COVID-19 pandemic, especially in urban areas. Also issues with incomplete reporting linked to problems with connectivity. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported data excluded. . Programme notes that official estimates are based on the results of the 2018 Demographic and Health Survey. Programme reports subnational vaccine stockouts for most antigens. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Reported data excluded. . Estimate challenged by: D-R-

2017: Estimate of 77 percent assigned by working group. Estimate is based on survey result. Mali Demographic and Health Survey 2018 card or history results of 71 percent modifed for recall bias to 77 percent based on 1st dose card or history coverage of 82 percent, 1st dose card only coverage of 54 percent and 3rd dose card only coverage of 51 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: R-

2016: Estimate is based on survey result. Mali Demographic and Health Survey 2018 card or history results of 69 percent modifed for recall bias to 76 percent based on 1st dose card or history coverage of 82 percent, 1st dose card only coverage of 43 percent and 3rd dose card only coverage of 40 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Programme reports one month vaccine stockout. Estimate challenged by: D-

2015: Reported data calibrated to 2014 and 2016 levels. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2014: Estimate of 66 percent assigned by working group. Estimate based on survey results. Expanded Programme of Immunization External Review, 2016 results ignored by working group. Coverage by card is higher than cards seen and other inconsistencies such as coverage with final doses higher than earlier doses in the series. Also, EPI survey results inconsistent with MICS for the same cohort and previous surveys.Mali Multiple

Indicator Cluster Survey 2015 card or history results of 56 percent modifed for recall bias to 66 percent based on 1st dose card or history coverage of 73 percent, 1st dose card only coverage of 41 percent and 3rd dose card only coverage of 37 percent. Expanded Programme of Immunization External Review, 2016 card or history results of 73 percent modifed for recall bias to 99 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 36 percent and 3rd dose card only coverage of 45 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 64 percent based on 1 survey(s). Mali Multiple Indicator Cluster Survey 2015 card or history results of 54 percent modifed for recall bias to 64 percent based on 1st dose card or history coverage of 69 percent, 1st dose card only coverage of 29 percent and 3rd dose card only coverage of 27 percent. Estimate challenged by: D-R-

2012: Estimate informed by interpolation between 2011 and 2013 levels. Estimates based on survey results. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 66 percent based on 1 survey(s). Mali Demographic and Health Survey 2012-13 card or history results of 63 percent modifed for recall bias to 66 percent based on 1st dose card or history coverage of 80 percent, 1st dose card only coverage of 35 percent and 3rd dose card only coverage of 29 percent. Estimate challenged by: D-R-
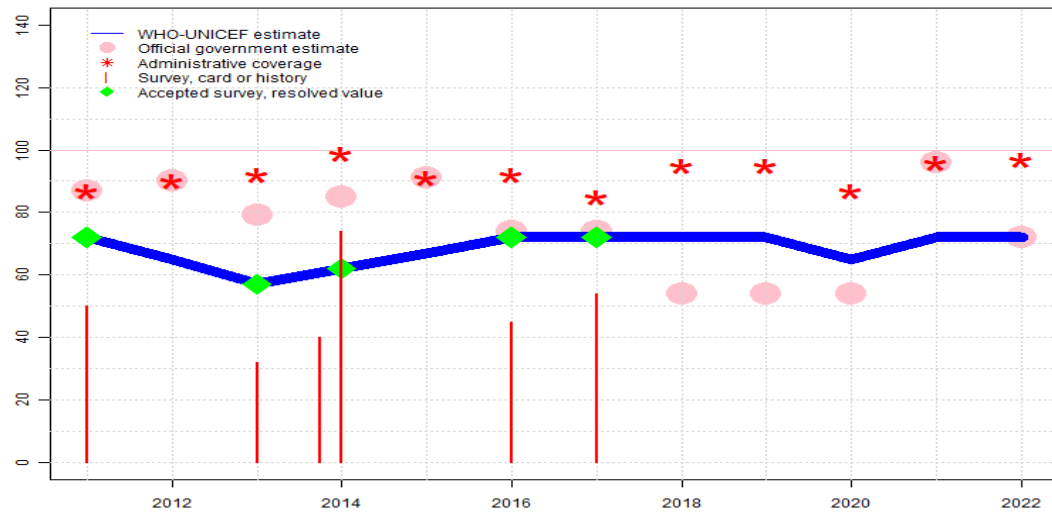
Mali - Pol3

MLI - Pol3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	72	65	57	62	67	72	72	72	72	65	72	72
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	87	90	79	85	91	74	74	54	54	54	96	72
Administrative	87	90	92	99	91	92	85	95	95	87	96	97
Survey	50	NA	32	*	NA	45	54	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: 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:

2022: Reported data calibrated to 2017 levels. Reported data excluded due to sudden change in coverage from 96 level to 72 percent. Vaccination coverage survey conducted in 2022 for two districts in the capital city. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Reported data excluded due to an increase from 54 percent to 96 percent with decrease 72 percent. Estimate challenged by: D-R-

2020: Estimate exceptionally based on the difference between administrative coverage 2019 to 2020 applied to the 2019 WUENIC estimate. Reported data excluded. Programme reports disruptions in performance related to insecurity and reductions in attendance to vaccination sessions related to the COVID-19 pandemic, especially in urban areas. Also issues with incomplete reporting linked to problems with connectivity. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported data excluded. . Programme notes that official estimates are based on the results of the 2018 Demographic and Health Survey. Programme reports subnational vaccine stockouts for most antigens. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Reported data excluded. . Estimate challenged by: D-R-

2017: Estimate of 72 percent assigned by working group. Estimate is based on survey result. Mali Demographic and Health Survey 2018 card or history results of 54 percent modifed for recall bias to 72 percent based on 1st dose card or history coverage of 78 percent, 1st dose card only coverage of 54 percent and 3rd dose card only coverage of 50 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: R-

2016: Estimate of 72 percent assigned by working group. Estimate is based on survey result. Mali Demographic and Health Survey 2018 card or history results of 45 percent modifed for recall bias to 72 percent based on 1st dose card or history coverage of 77 percent, 1st dose card only coverage of 43 percent and 3rd dose card only coverage of 40 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: D-R-

2015: Reported data calibrated to 2014 and 2016 levels. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 62 percent based on 1 survey(s). Expanded Programme of Immunization External Review, 2016 results ignored by working group. Coverage by card is higher than cards seen and other inconsistencies such as coverage with final doses higher than earlier doses in the series. Also, EPI survey results inconsistent with MICS for the same cohort

and previous surveys.Mali Multiple Indicator Cluster Survey 2015 card or history results of 40 percent modifed for recall bias to 62 percent based on 1st dose card or history coverage of 69 percent, 1st dose card only coverage of 40 percent and 3rd dose card only coverage of 36 percent. Expanded Programme of Immunization External Review, 2016 card or history results of 74 percent modifed for recall bias to 99 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 36 percent and 3rd dose card only coverage of 45 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 57 percent based on 1 survey(s). Mali Multiple Indicator Cluster Survey 2015 card or history results of 32 percent modifed for recall bias to 57 percent based on 1st dose card or history coverage of 64 percent, 1st dose card only coverage of 29 percent and 3rd dose card only coverage of 26 percent. Estimate challenged by: D-R-S-

2012: Estimate informed by interpolation between 2011 and 2013 levels. Estimates based on survey results. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 72 percent based on 1 survey(s). Mali Demographic and Health Survey 2012-13 card or history results of 50 percent modifed for recall bias to 72 percent based on 1st dose card or history coverage of 84 percent, 1st dose card only coverage of 35 percent and 3rd dose card only coverage of 30 percent. Estimate challenged by: R-S-

MLI - IPV1

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	54	56	77	77	70	77	77
Estimate GoC	NA	NA	NA	NA	NA	●	●	●	●	●	●	●
Official	NA	NA	NA	NA	NA	58	NA	56	57	56	96	80
Administrative	NA	NA	NA	NA	NA	58	64	94	96	89	96	100
Survey	NA	NA	NA	NA	NA	54	56	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: 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:

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).

2022: Estimate informed by estimated DTP3 coverage. Reported data excluded due to sudden change in coverage from 96 level to 80 percent. Vaccination coverage survey conducted in 2022 for two districts in the capital city. Estimate challenged by: D-R-

2021: Estimate informed by estimated DTP3 coverage. Reported data excluded due to an increase from 56 percent to 96 percent with decrease 80 percent. Estimate challenged by: D-R-

2020: Estimate exceptionally based on the difference between administrative coverage 2019 to 2020 applied to the 2019 WUENIC estimate. Reported data excluded. Programme reports disruptions in performance related to insecurity and reductions in attendance to vaccination sessions related to the COVID-19 pandemic, especially in urban areas. Also issues with incomplete reporting linked to problems with connectivity. Estimate challenged by: D-R-

2019: Estimate based on estimated DTP3 coverage. Reported data excluded. . Programme notes that official estimates are based on the results of the 2018 Demographic and Health Survey. Programme reports subnational vaccine stockouts for most antigens. Estimate challenged by: D-R-S-

2018: Estimate based on estimated DTP3 coverage. Reported data excluded. . Estimate challenged by: D-R-S-

2017: Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both co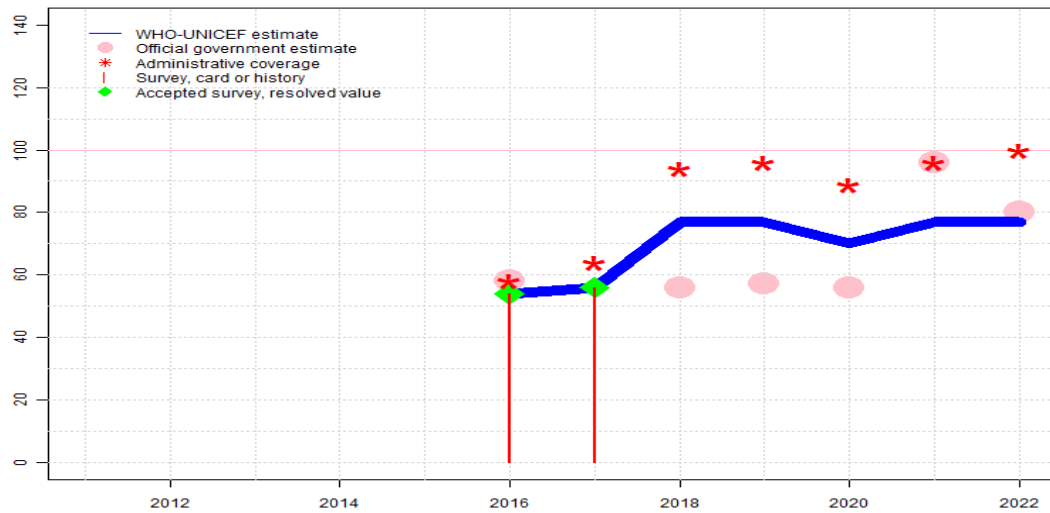verage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Programme reports stockout of IPV of unclear duration. Estimate challenged by: R-

2016: Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

Mali - MCV1

MLI - MCV1

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	72	67	62	61	66	70	70	70	70	62	70	70
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	82	85	72	72	86	74	74	70	70	70	92	77
Administrative	82	85	90	90	86	91	87	97	95	87	92	99
Survey	72	NA	62	*	NA	70	70	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: 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:

2022: Reported data calibrated to 2017 levels. Reported data excluded due to sudden change in coverage from 92 level to 77 percent. Vaccination coverage survey conducted in 2022 for two districts in the capital city. Increase in the number of reported vaccine doses is not reflected in the estimated coverage. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Reported data excluded due to an increase from 70 percent to 92 percent with decrease 77 percent. Estimate challenged by: D-R-

2020: Estimate exceptionally based on the difference between administrative coverage 2019 to 2020 applied to the 2019 WUENIC estimate. Reported data excluded. Programme reports disruptions in performance related to insecurity and reductions in attendance to vaccination sessions related to the COVID-19 pandemic, especially in urban areas. Also issues with incomplete reporting linked to problems with connectivity. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported data excluded. . Programme notes that official estimates are based on the results of the 2018 Demographic and Health Survey. Programme reports subnational vaccine stockouts for most antigens. Estimate challenged by: D-R-
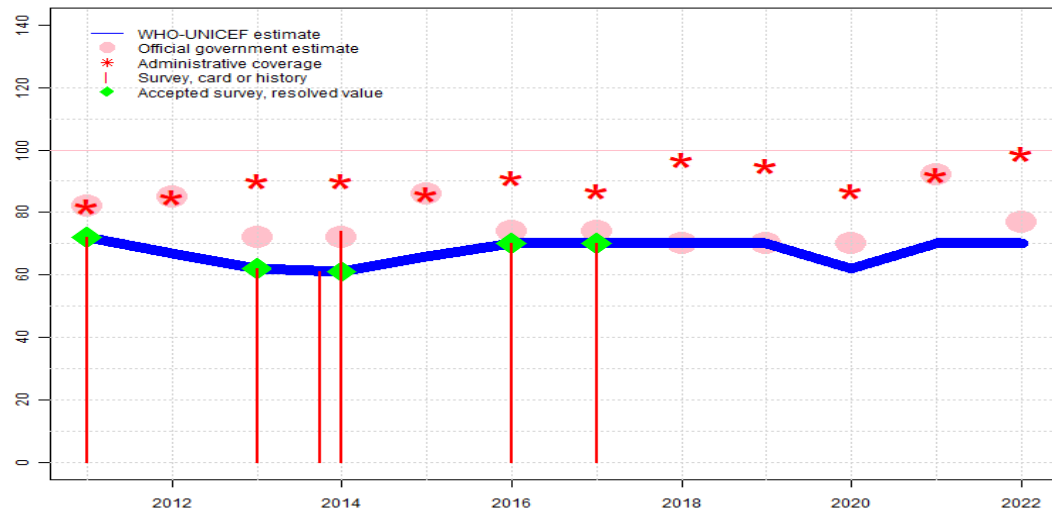
2018: Reported data calibrated to 2017 levels. Reported data excluded. . Estimate challenged by: D-R-

2017: Estimate of 70 percent assigned by working group. Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: D-R-

2016: Estimate of 70 percent assigned by working group. Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: D-R-

2015: Reported data calibrated to 2014 and 2016 levels. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator.Reported data excluded due to an increase from 72 percent to 86 percent with decrease 74 percent. Estimate challenged by: D-R-

2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 61 percent based on 1 survey(s). Expanded Programme of Immunization External Review, 2016 results ignored by working group. Coverage by card is higher than cards seen and other inconsistencies such as coverage with final doses higher than earlier doses in the series. Also, EPI survey results inconsistent with MICS for the same cohort and previous surveys.Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2013: Estimate of 62 percent assigned by working group. Estimate based on survey results. Estimate challenged by: D-R-
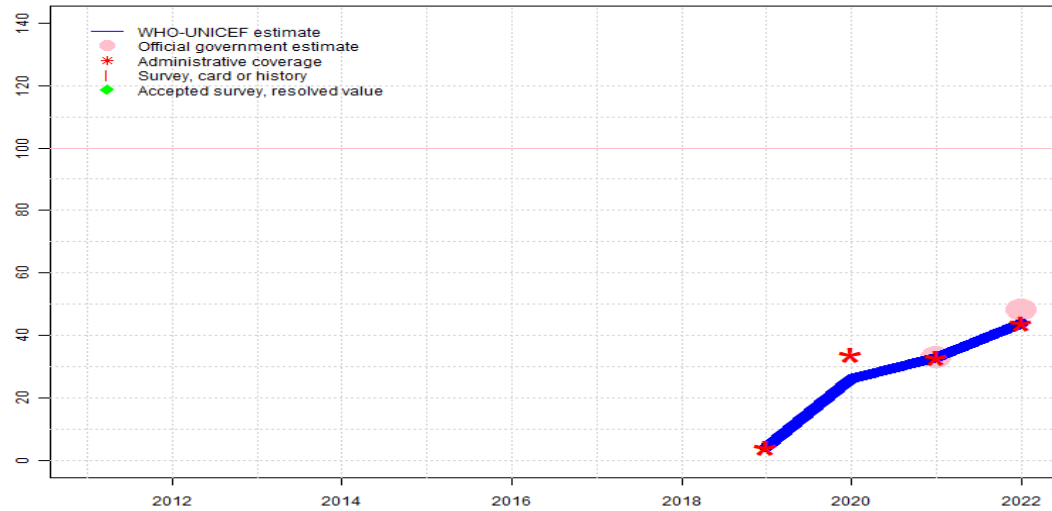
2012: Estimate informed by interpolation between 2011 and 2013 levels. Estimates based on survey results. Estimate challenged by: R-

2011: Estimate of 72 percent assigned by working group. Estimate is based on survey. Estimate challenged by: R-

Mali - MCV2

MLI - MCV2

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

Description:

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

2022: Estimate informed by reported administrative data. Vaccination coverage survey conducted in 2022 for two districts in the capital city.. Estimate is exceptionally based on the reported administrative coverage level following recent introduction. GoC=R+ D+

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

2020: Estimate exceptionally based on reported coverage. 34 percent reported for 75 of the target population of surviving infants. Reported data excluded. Programme reports disruptions in performance related to insecurity and reductions in attendance to vaccination sessions related to the COVID-19 pandemic, especially in urban areas. Also issues with incomplete reporting linked to problems with connectivity. Estimate challenged by: R-

2019: Estimate informed by reported administrative data. Programme notes that official estimates are based on the results of the 2018 Demographic and Health Survey. Programme reports subnational vaccine stockouts for most antigens. Second dose of measles containing vaccine introduced during December 2019. GoC=Assigned by working group. Consistency across vaccines.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	4	26	33	44
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	●	●	●●	●●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	48
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	4	34	33	44
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: 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.

MLI - RCV1

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

No estimate for infant immunization made.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
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: 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.

Mali - HepBB

MLI - HepBB

No estimate for infant immunization made.

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.

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
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: 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
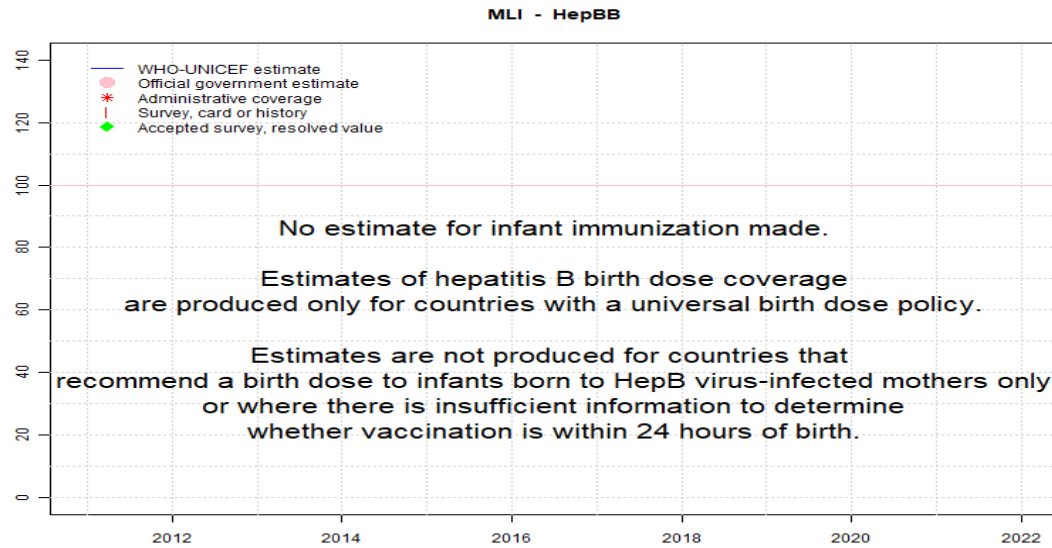of the objective for which they are being used.

Mali - HepB3

MLI - HepB3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	66	65	64	66	71	76	77	77	77	70	77	77
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	88	90	76	81	90	73	73	72	71	71	97	76
Administrative	88	90	93	99	90	94	89	96	97	90	NA	96
Survey	63	NA	54	*	NA	69	71	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.
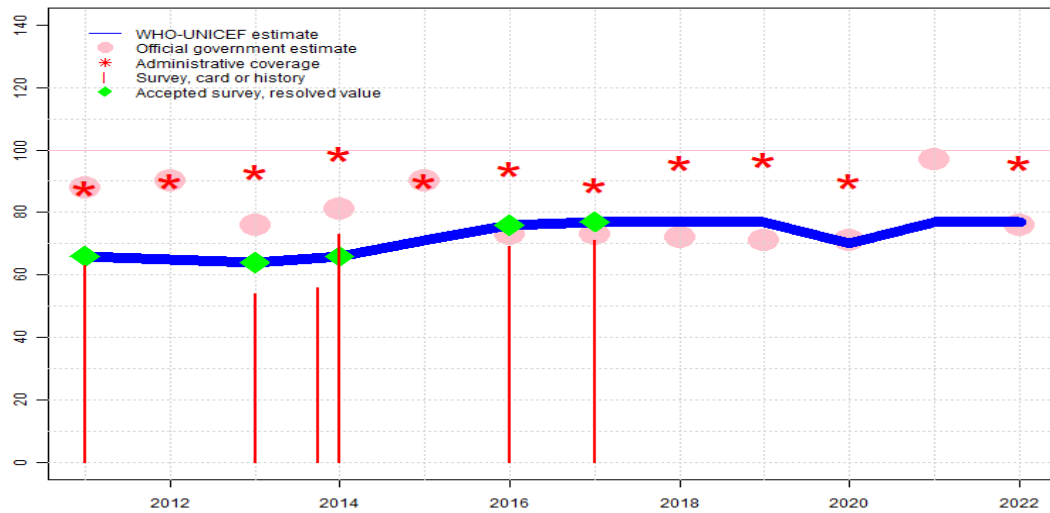
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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:

2022: Reported data calibrated to 2017 levels. Reported data excluded due to sudden change in coverage from 97 level to 76 percent. Vaccination coverage survey conducted in 2022 for two districts in the capital city. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Reported data excluded due to an increase from 71 percent to 97 percent with decrease 76 percent. Estimate challenged by: R-

2020: Estimate exceptionally based on the difference between administrative coverage 2019 to 2020 applied to the 2019 WUENIC estimate. Reported data excluded. Programme reports disruptions in performance related to insecurity and reductions in attendance to vaccination sessions related to the COVID-19 pandemic, especially in urban areas. Also issues with incomplete reporting linked to problems with connectivity. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported data excluded. . Programme notes that official estimates are based on the results of the 2018 Demographic and Health Survey. Programme reports subnational vaccine stockouts for most antigens. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Reported data excluded. . Estimate challenged by: D-R-

2017: Estimate of 77 percent assigned by working group. Estimate is based on survey result. Mali Demographic and Health Survey 2018 card or history results of 71 percent modifed for recall bias to 77 percent based on 1st dose card or history coverage of 82 percent, 1st dose card only coverage of 54 percent and 3rd dose card only coverage of 51 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: R-

2016: Estimate is based on survey result. Mali Demographic and Health Survey 2018 card or history results of 69 percent modifed for recall bias to 76 percent based on 1st dose card or history coverage of 82 percent, 1st dose card only coverage of 43 percent and 3rd dose card only coverage of 40 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Programme reports one month vaccine stockout. Estimate challenged by: D-

2015: Reported data calibrated to 2014 and 2016 levels. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2014: Estimate of 66 percent assigned by working group. Estimate based on survey results. Expanded Programme of Immunization External Review, 2016 results ignored by working group. Coverage by card is higher than cards seen and other inconsistencies such as coverage with final doses higher than earlier doses in the series. Also, EPI survey results inconsistent with MICS for the same cohort and previous surveys.Mali Multiple

Indicator Cluster Survey 2015 card or history results of 56 percent modifed for recall bias to 66 percent based on 1st dose card or history coverage of 73 percent, 1st dose card only coverage of 41 percent and 3rd dose card only coverage of 37 percent. Expanded Programme of Immunization External Review, 2016 card or history results of 73 percent modifed for recall bias to 99 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 36 percent and 3rd dose card only coverage of 45 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 64 percent based on 1 survey(s). Mali Multiple Indicator Cluster Survey 2015 card or history results of 54 percent modifed for recall bias to 64 percent based on 1st dose card or history coverage of 69 percent, 1st dose card only coverage of 29 percent and 3rd dose card only coverage of 27 percent. Estimate challenged by: D-R-

2012: Estimate informed by interpolation between 2011 and 2013 levels. Estimates based on survey results. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 66 percent based on 1 survey(s). Mali Demographic and Health Survey 2012-13 card or history results of 63 percent modifed for recall bias to 66 percent based on 1st dose card or history coverage of 80 percent, 1st dose card only coverage of 35 percent and 3rd dose card only coverage of 29 percent. Estimate challenged by: D-R-

Mali - Hib3

MLI - Hib3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	66	65	64	66	71	76	77	77	77	70	77	77
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	88	90	76	81	90	73	73	72	71	71	97	76
Administrative	88	90	93	99	90	94	89	96	97	90	97	96
Survey	63	NA	54	*	NA	69	71	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: 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:

2022: Reported data calibrated to 2017 levels. Reported data excluded due to sudden change in
coverage from 97 level to 76 percent. Vaccination coverage survey conducted in 2022 for
two districts in the capital city. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Reported data excluded due to an increase from
71 percent to 97 percent with decrease 76 percent. Estimate challenged by: D-R-

2020: Estimate exceptionally based on the difference between administrative coverage 2019 to
2020 applied to the 2019 WUENIC estimate. Reported data excluded. Programme
reports disruptions in performance related to insecurity and reductions in attendance
to vaccination sessions related to the COVID-19 pandemic, especially in urban areas.
Also issues with incomplete reporting linked to problems with connectivity. Estimate
challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported data excluded. . Programme notes that
official estimates are based on the results of the 2018 Demographic and Health Survey.
Programme reports subnational vaccine stockouts for most antigens. Estimate challenged
by: D-R-

2018: Reported data calibrated to 2017 levels. Reported data excluded. . Estimate challenged
by: D-R-

2017: Estimate of 77 percent assigned by working group. Estimate is based on survey result.
Mali Demographic and Health Survey 2018 card or history results of 71 percent modifed
for recall bias to 77 percent based on 1st dose card or history coverage of 82 percent,
1st dose card only coverage of 54 percent and 3rd dose card only coverage of 51 percent.
Reported data excluded. Programme reports data quality issues affecting both coverage
denominator and numerator. Official estimates based on January-February 2016 vacci-
nation coverage survey for 2014 cohort, which has internal inconsistencies in the results.
Estimate challenged by: R-

2016: Estimate is based on survey result. Mali Demographic and Health Survey 2018 card or
history results of 69 percent modifed for recall bias to 76 percent based on 1st dose card
or history coverage of 82 percent, 1st dose card only coverage of 43 percent and 3rd dose
card only coverage of 40 percent. Reported data excluded. Programme reports data
quality issues affecting both coverage denominator and numerator. Official estimates
based on January-February 2016 vaccination coverage survey for 2014 cohort, which has
internal inconsistencies in the results. Programme reports one month vaccine stockout.
Estimate challenged by: D-

2015: Reported data calibrated to 2014 and 2016 levels. Reported data excluded. Programme
reports data quality issues affecting both coverage denominator and numerator. Estimate
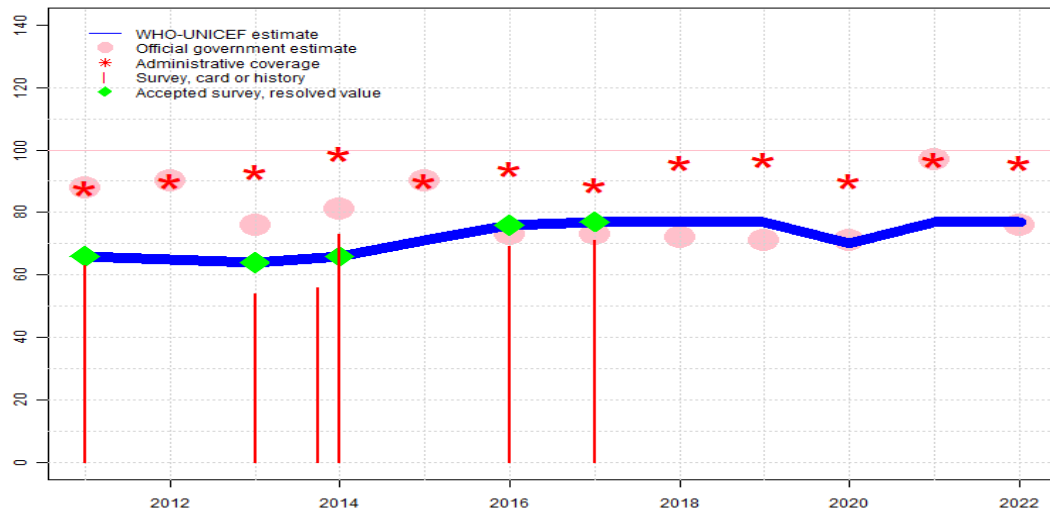challenged by: D-R-

2014: Estimate of 66 percent assigned by working group. Estimate based on survey results.
Expanded Programme of Immunization External Review, 2016 results ignored by work-
ing group. Coverage by card is higher than cards seen and other inconsistencies such
as coverage with final doses higher than earlier doses in the series. Also, EPI survey
results inconsistent with MICS for the same cohort and previous surveys.Mali Multiple

Indicator Cluster Survey 2015 card or history results of 56 percent modifed for recall bias to 66 percent based on 1st dose card or history coverage of 73 percent, 1st dose card only coverage of 41 percent and 3rd dose card only coverage of 37 percent. Expanded Programme of Immunization External Review, 2016 card or history results of 73 percent modifed for recall bias to 99 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 36 percent and 3rd dose card only coverage of 45 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 64 percent based on 1 survey(s). Mali Multiple Indicator Cluster Survey 2015 card or history results of 54 percent modifed for recall bias to 64 percent based on 1st dose card or history coverage of 69 percent, 1st dose card only coverage of 29 percent and 3rd dose card only coverage of 27 percent. Estimate challenged by: D-R-

2012: Estimate informed by interpolation between 2011 and 2013 levels. Estimates based on survey results. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 66 percent based on 1 survey(s). Mali Demographic and Health Survey 2012-13 card or history results of 63 percent modifed for recall bias to 66 percent based on 1st dose card or history coverage of 80 percent, 1st dose card only coverage of 35 percent and 3rd dose card only coverage of 29 percent. Estimate challenged by: D-R-

Mali - RotaC

MLI - RotaC

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	23	35	62	63	63	63	68	70	70
Estimate GoC	NA	NA	NA	●	●	●	●	●	●	●	●	●
Official	NA	NA	NA	13	33	73	NA	60	63	63	90	77
Administrative	NA	NA	NA	13	33	77	73	80	71	76	90	97
Survey	NA	NA	22	23	NA	62	63	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: 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:

2022: Estimate informed by the difference in reported administrative coverage for DTP3 and RotaC applied to the estimated coverage level for DTP3. Reported data excluded due to decline in reported coverage from 90 level to 77 percent. Vaccination coverage survey conducted in 2022 for two districts in the capital city. Estimate challenged by: D-R-

2021: Estimate informed by the difference in reported administrative coverage for DTP3 and RotaC applied to the estimated coverage level for DTP3. Reported data excluded due to an increase from 63 percent to 90 percent with decrease 77 percent. Estimate challenged by: D-R-

2020: Estimate exceptionally based on the difference between administrative coverage 2019 to 2020 applied to the 2019 WUENIC estimate. Reported data excluded. Programme reports disruptions in performance related to insecurity and reductions in attendance to vaccination sessions related to the COVID-19 pandemic, especially in urban areas. Also issues with incomplete reporting linked to problems with connectivity. Estimate challenged by: R-

2019: Estimate is based on survey result. Reported data excluded. . Programme notes that official estimates are based on the results of the 2018 Demographic and Health Survey. Programme reports subnational vaccine stockouts for most antigens. Estimate challenged by: R-

2018: Estimate is based on survey result. Reported data excluded. . Estimate challenged by: D-R-

2017: Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both co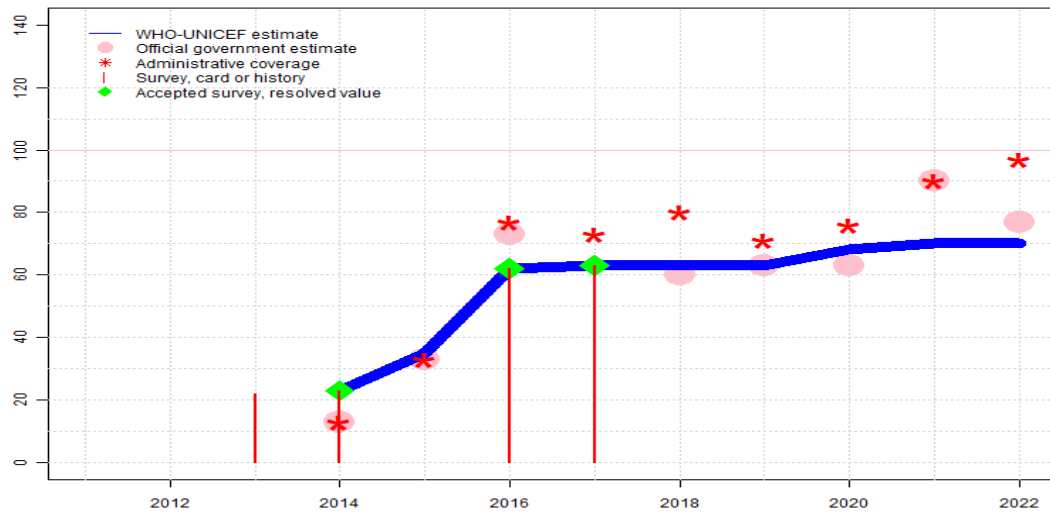verage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: R-

2016: Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: D-R-S-

2015: Estimate based on interpolation between estimate for 2014 and 2017. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

2014: Estimate based on survey results. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Rotavirus vaccine was introduced during 2014. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.

Mali - PcV3

MLI - PcV3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey, card or history
- Accepted survey, resolved value

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	56	58	59	57	67	76	74	74	74	66	77	77
Estimate GoC	●●	●	●	●	●	●	●	●	●	●	●	●
Official	56	87	76	79	77	73	73	63	67	68	97	69
Administrative	56	87	92	97	77	94	90	96	98	90	97	89
Survey	NA	NA	49	*	NA	66	68	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: 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.
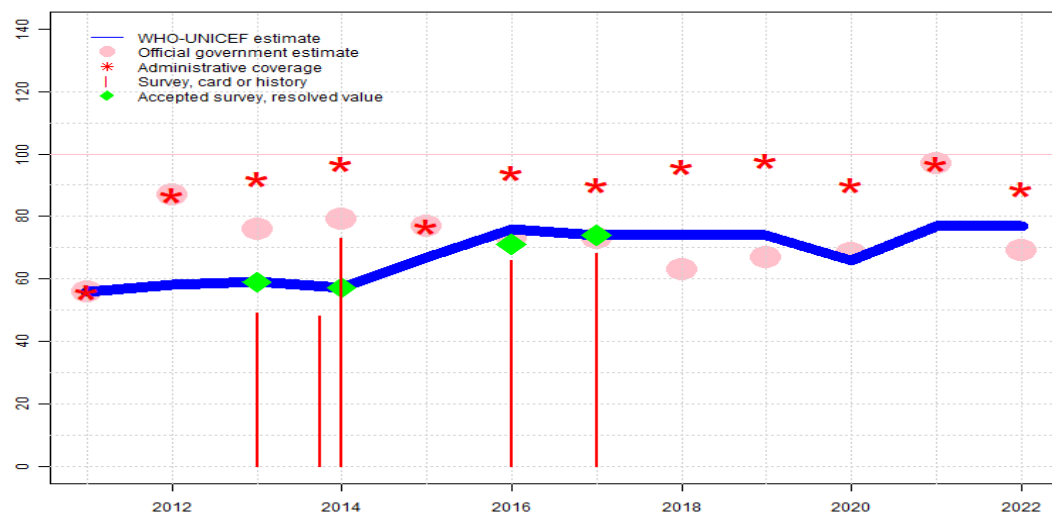
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

2022: Estimate informed by estimated coverage for DTP3. Reported data excluded due to decline in reported coverage from 97 level to 69 percent. Vaccination coverage survey conducted in 2022 for two districts in the capital city. Estimate challenged by: D-R-

2021: Estimate informed by estimated coverage for DTP3. Reported data excluded due to an increase from 68 percent to 97 percent with decrease 69 percent. Estimate challenged by: D-R-

2020: Estimate exceptionally based on the difference between administrative coverage 2019 to 2020 applied to the 2019 WUENIC estimate. Reported data excluded. Programme reports disruptions in performance related to insecurity and reductions in attendance to vaccination sessions related to the COVID-19 pandemic, especially in urban areas. Also issues with incomplete reporting linked to problems with connectivity. Estimate challenged by: D-R-

2019: Estimate is based on extrapolation from estimated coverage for 2017. Reported data excluded. . Programme notes that official estimates are based on the results of the 2018 Demographic and Health Survey. Programme reports subnational vaccine stockouts for most antigens. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Reported data excluded. . Estimate of 74 percent changed from previous revision value of 76 percent. Estimate challenged by: D-R-

2017: Estimate of 74 percent assigned by working group. Estimate is based on survey result. Mali Demographic and Health Survey 2018 card or history results of 68 percent modifed for recall bias to 74 percent based on 1st dose card or history coverage of 80 percent, 1st dose card only coverage of 53 percent and 3rd dose card only coverage of 49 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: D-R-

2016: Estimate based on extrapolation from data reported by national government supported by survey. Survey evidence of 71 percent based on 1 survey(s). Mali Demographic and Health Survey 2018 card or history results of 66 percent modifed for recall bias to 71 percent based on 1st dose card or history coverage of 79 percent, 1st dose card only coverage of 42 percent and 3rd dose card only coverage of 38 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate of 76 percent changed from previous revision value of 71 percent. Estimate challenged by: D-S-

2015: Reported data calibrated to 2014 and 2016 levels. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate of 67 percent changed from previous revision value of 63 percent. Estimate challenged by: R-

2014: Survey evidence does not support reported data. Estimate based on survey results. Survey

evidence of 57 percent based on 1 survey(s). Expanded Programme of Immunization External Review, 2016 results ignored by working group. Coverage by card is higher than cards seen and other inconsistencies such as coverage with final doses higher than earlier doses in the series. Also, EPI survey results inconsistent with MICS for the same cohort and previous surveys.Mali Multiple Indicator Cluster Survey 2015 card or history results of 48 percent modifed for recall bias to 57 percent based on 1st dose card or history coverage of 65 percent, 1st dose card only coverage of 34 percent and 3rd dose card only coverage of 30 percent. Expanded Programme of Immunization External Review, 2016 card or history results of 73 percent modifed for recall bias to 99 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 36 percent and 3rd dose card only coverage of 45 percent. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-S-

2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 59 percent based on 1 survey(s). Mali Multiple Indicator Cluster Survey 2015 card or history results of 49 percent modifed for recall bias to 59 percent based on 1st dose card or history coverage of 64 percent, 1st dose card only coverage of 25 percent and 3rd dose card only coverage of 23 percent. Estimate challenged by: D-R-

2012: Reported data calibrated to 2011 and 2013 levels. Reported data excluded due to an increase from 56 percent to 87 percent with decrease 76 percent. Estimate challenged by: D-R-

2011: Pneumococcal conjugate vaccine was introduced in 2011. GoC=R+ S+

Mali - YFV
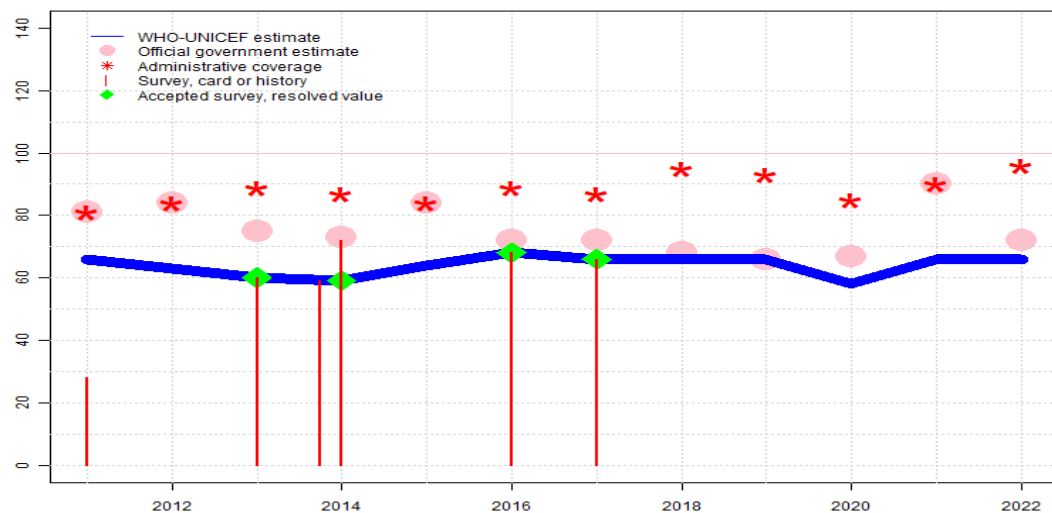
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	66	63	60	59	64	68	66	66	66	58	66	66
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	81	84	75	73	84	72	72	68	66	67	90	72
Administrative	81	84	89	87	84	89	87	95	93	85	90	96
Survey	28	NA	60	*	NA	68	66	NA	NA	NA	NA	NA

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: 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:

2022: Reported data calibrated to 2017 levels. Reported data excluded due to sudden change in coverage from 90 level to 72 percent. Vaccination coverage survey conducted in 2022 for two districts in the capital city. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Reported data excluded due to an increase from 67 percent to 90 percent with decrease 72 percent. Estimate challenged by: D-R-

2020: Estimate exceptionally based on the difference between administrative coverage 2019 to 2020 applied to the 2019 WUENIC estimate. Reported data excluded. Programme reports disruptions in performance related to insecurity and reductions in attendance to vaccination sessions related to the COVID-19 pandemic, especially in urban areas. Also issues with incomplete reporting linked to problems with connectivity. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported data excluded. . Programme notes that official estimates are based on the results of the 2018 Demographic and Health Survey. Programme reports subnational vaccine stockouts for most antigens. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Reported data excluded. . Estimate challenged by: D-R-

2017: Estimate of 66 percent assigned by working group. Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: D-R-

2016: Estimate of 68 percent assigned by working group. Estimate is based on survey result. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Official estimates based on January-February 2016 vaccination coverage survey for 2014 cohort, which has internal inconsistencies in the results. Estimate challenged by: D-R-

2015: Reported data calibrated to 2014 and 2016 levels. Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator.Reported data excluded due to an increase from 73 percent to 84 percent with decrease 72 percent. Estimate challenged by: D-R-

2014: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 59 percent based on 1 survey(s). Expanded Programme of Immunization External Review, 2016 results ignored by working group. Coverage by card is higher than cards seen and other inconsistencies such as coverage with final doses higher than earlier doses in the series. Also, EPI survey results inconsistent with MICS for the same cohort and previous surveys.Reported data excluded. Programme reports data quality issues affecting both coverage denominator and numerator. Estimate challenged by: D-R-

2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 60 percent based on 1 survey(s). Estimate challenged by: D-R-

2012: Estimate informed by interpolation between 2009 and 2013 levels. Estimate based on

interpolation between survey coverage. Estimate challenged by: D-R-

2011: Estimate informed by interpolation between 2009 and 2013 levels. Estimate based on interpolation between survey coverage. Mali Demographic and Health Survey 2012-13 results ignored by working group. Survey results inconsistent with other vaccines. Estimate challenged by: R-

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.

2017 Mali Enquête Démographique et de Santé 2018

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	82.6	12-23 m	2048	56
BCG	Card	54.1	12-23 m	1139	56
BCG	Card or History	83.4	12-23 m	2048	56
BCG	History	29.3	12-23 m	909	56
DTP1	C or H <12 months	81.3	12-23 m	2048	56
DTP1	Card	54.1	12-23 m	1139	56
DTP1	Card or History	82.1	12-23 m	2048	56
DTP1	History	28	12-23 m	909	56
DTP3	C or H <12 months	68.8	12-23 m	2048	56
DTP3	Card	50.7	12-23 m	1139	56
DTP3	Card or History	70.7	12-23 m	2048	56
DTP3	History	20	12-23 m	909	56
HepB1	C or H <12 months	81.3	12-23 m	2048	56
HepB1	Card	54.1	12-23 m	1139	56
HepB1	Card or History	82.1	12-23 m	2048	56
HepB1	History	28	12-23 m	909	56
HepB3	C or H <12 months	68.8	12-23 m	2048	56
HepB3	Card	50.7	12-23 m	1139	56
HepB3	Card or History	70.7	12-23 m	2048	56
HepB3	History	20	12-23 m	909	56
Hib1	C or H <12 months	81.3	12-23 m	2048	56
Hib1	Card	54.1	12-23 m	1139	56
Hib1	Card or History	82.1	12-23 m	2048	56
Hib1	History	28	12-23 m	909	56
Hib3	C or H <12 months	68.8	12-23 m	2048	56
Hib3	Card	50.7	12-23 m	1139	56
Hib3	Card or History	70.7	12-23 m	2048	56
Hib3	History	20	12-23 m	909	56
IPV1	C or H <12 months	54.8	12-23 m	2048	56
IPV1	Card	28.4	12-23 m	1139	56
IPV1	Card or History	55.7	12-23 m	2048	56
IPV1	History	27.4	12-23 m	909	56
MCV1	C or H <12 months	64.4	12-23 m	2048	56
MCV1	Card	44.6	12-23 m	1139	56
MCV1	Card or History	69.8	12-23 m	2048	56
MCV1	History	25.2	12-23 m	909	56
PCV1	C or H <12 months	79.4	12-23 m	2048	56
PCV1	Card	52.9	12-23 m	1139	56
PCV1	Card or History	80	12-23 m	2048	56
PCV1	History	27.1	12-23 m	909	56
PCV3	C or H <12 months	65.8	12-23 m	2048	56
PCV3	Card	48.9	12-23 m	1139	56
PCV3	Card or History	67.7	12-23 m	2048	56
PCV3	History	18.9	12-23 m	909	56
Pol1	C or H <12 months	77.8	12-23 m	2048	56
Pol1	Card	53.9	12-23 m	1139	56
Pol1	Card or History	78.5	12-23 m	2048	56
Pol1	History	24.6	12-23 m	909	56
Pol3	C or H <12 months	53.2	12-23 m	2048	56
Pol3	Card	50.1	12-23 m	1139	56
Pol3	Card or History	54.3	12-23 m	2048	56
Pol3	History	4.2	12-23 m	909	56
RotaC	C or H <12 months	61.5	12-23 m	2048	56
RotaC	Card	44.5	12-23 m	1139	56
RotaC	Card or History	63.1	12-23 m	2048	56
RotaC	History	18.6	12-23 m	909	56
YFV	C or H <12 months	60.4	12-23 m	2048	56
YFV	Card	43	12-23 m	1139	56
YFV	Card or History	66.5	12-23 m	2048	56
YFV	History	23.5	12-23 m	909	56

2016 Mali Enquête Démographique et de Santé 2018

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	81.5	24-35 m	1748	56
BCG	Card	42.6	24-35 m	778	56
BCG	Card or History	82.3	24-35 m	1748	56
BCG	History	39.7	24-35 m	970	56
DTP1	C or H <12 months	80.5	24-35 m	1748	56
DTP1	Card	43.1	24-35 m	778	56
DTP1	Card or History	81.6	24-35 m	1748	56
DTP1	History	38.4	24-35 m	970	56
DTP3	C or H <12 months	65	24-35 m	1748	56
DTP3	Card	39.5	24-35 m	778	56
DTP3	Card or History	68.9	24-35 m	1748	56
DTP3	History	29.4	24-35 m	970	56
HepB1	C or H <12 months	80.5	24-35 m	1748	56
HepB1	Card	43.1	24-35 m	778	56
HepB1	Card or History	81.6	24-35 m	1748	56
HepB1	History	38.4	24-35 m	970	56
HepB3	C or H <12 months	65	24-35 m	1748	56
HepB3	Card	39.5	24-35 m	778	56
HepB3	Card or History	68.9	24-35 m	1748	56
HepB3	History	29.4	24-35 m	970	56
Hib1	C or H <12 months	80.5	24-35 m	1748	56
Hib1	Card	43.1	24-35 m	778	56
Hib1	Card or History	81.6	24-35 m	1748	56
Hib1	History	38.4	24-35 m	970	56
Hib3	C or H <12 months	65	24-35 m	1748	56
Hib3	Card	39.5	24-35 m	778	56
Hib3	Card or History	68.9	24-35 m	1748	56
Hib3	History	29.4	24-35 m	970	56
IPV1	C or H <12 months	51.4	24-35 m	1748	56
IPV1	Card	16.2	24-35 m	778	56
IPV1	Card or History	54.3	24-35 m	1748	56
IPV1	History	38.1	24-35 m	970	56
MCV1	C or H <12 months	60.3	24-35 m	1748	56
MCV1	Card	34.9	24-35 m	778	56
MCV1	Card or History	69.8	24-35 m	1748	56
MCV1	History	34.9	24-35 m	970	56
PCV1	C or H <12 months	78.1	24-35 m	1748	56
PCV1	Card	42	24-35 m	778	56
PCV1	Card or History	79.4	24-35 m	1748	56
PCV1	History	37.4	24-35 m	970	56
PCV3	C or H <12 months	62.2	24-35 m	1748	56
PCV3	Card	37.9	24-35 m	778	56
PCV3	Card or History	65.5	24-35 m	1748	56
PCV3	History	27.7	24-35 m	970	56
Pol1	C or H <12 months	75.7	24-35 m	1748	56
Pol1	Card	42.9	24-35 m	778	56
Pol1	Card or History	76.7	24-35 m	1748	56
Pol1	History	33.8	24-35 m	970	56
Pol3	C or H <12 months	42.5	24-35 m	1748	56
Pol3	Card	39.6	24-35 m	778	56
Pol3	Card or History	45.2	24-35 m	1748	56
Pol3	History	5.6	24-35 m	970	56
RotaC	C or H <12 months	57.8	24-35 m	1748	56
RotaC	Card	34.8	24-35 m	778	56
RotaC	Card or History	61.8	24-35 m	1748	56
RotaC	History	27	24-35 m	970	56
YFV	C or H <12 months	58	24-35 m	1748	56
YFV	Card	34.6	24-35 m	778	56
YFV	Card or History	67.8	24-35 m	1748	56
YFV	History	33.2	24-35 m	970	56

2014 Mali Multiple Indicator Cluster Survey 2015

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	71.9	12-23 m	3303	44
BCG	Card	39.9	12-23 m	3303	44
BCG	Card or History	72.6	12-23 m	3303	44
BCG	History	32.7	12-23 m	3303	44
DTP1	C or H <12 months	71.8	12-23 m	3303	44
DTP1	Card	40.7	12-23 m	3303	44
DTP1	Card or History	72.6	12-23 m	3303	44
DTP1	History	31.9	12-23 m	3303	44
DTP3	C or H <12 months	54.5	12-23 m	3303	44
DTP3	Card	37.2	12-23 m	3303	44
DTP3	Card or History	55.5	12-23 m	3303	44
DTP3	History	18.4	12-23 m	3303	44
HepB1	C or H <12 months	71.8	12-23 m	3303	44
HepB1	Card	40.7	12-23 m	3303	44

HepB1	Card or History	72.6	12-23 m	3303	44
HepB1	History	31.9	12-23 m	3303	44
HepB3	C or H <12 months	54.5	12-23 m	3303	44
HepB3	Card	37.2	12-23 m	3303	44
HepB3	Card or History	55.5	12-23 m	3303	44
HepB3	History	18.4	12-23 m	3303	44
Hib1	C or H <12 months	71.8	12-23 m	3303	44
Hib1	Card	40.7	12-23 m	3303	44
Hib1	Card or History	72.6	12-23 m	3303	44
Hib1	History	31.9	12-23 m	3303	44
Hib3	C or H <12 months	54.5	12-23 m	3303	44
Hib3	Card	37.2	12-23 m	3303	44
Hib3	Card or History	55.5	12-23 m	3303	44
Hib3	History	18.4	12-23 m	3303	44
MCV1	C or H <12 months	56.9	12-23 m	3303	44
MCV1	Card	32.5	12-23 m	3303	44
MCV1	Card or History	60.8	12-23 m	3303	44
MCV1	History	28.4	12-23 m	3303	44
PCV1	C or H <12 months	63.9	12-23 m	3303	44
PCV1	Card	34.5	12-23 m	3303	44
PCV1	Card or History	64.9	12-23 m	3303	44
PCV1	History	30.4	12-23 m	3303	44
PCV3	C or H <12 months	47.1	12-23 m	3303	44
PCV3	Card	30.1	12-23 m	3303	44
PCV3	Card or History	47.8	12-23 m	3303	44
PCV3	History	17.7	12-23 m	3303	44
Pol1	C or H <12 months	68.3	12-23 m	3303	44
Pol1	Card	40.3	12-23 m	3303	44
Pol1	Card or History	68.9	12-23 m	3303	44
Pol1	History	28.6	12-23 m	3303	44
Pol3	C or H <12 months	39.2	12-23 m	3303	44
Pol3	Card	36.2	12-23 m	3303	44
Pol3	Card or History	40	12-23 m	3303	44
Pol3	History	3.8	12-23 m	3303	44
RotaC	C or H <12 months	22.6	12-23 m	3303	44
RotaC	Card	12.8	12-23 m	3303	44
RotaC	Card or History	23.4	12-23 m	3303	44
RotaC	History	10.6	12-23 m	3303	44
YFV	C or H <12 months	55.1	12-23 m	3303	44
YFV	Card	31.3	12-23 m	3303	44

YFV	Card or History	58.8	12-23 m	3303	44
YFV	History	27.5	12-23 m	3303	44

2014 Programme Elargi de Vaccination Revue Externe 2016

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	35.6	12-23 m	9402	34
BCG	Card or History	92	12-23 m	9402	34
DTP1	Card	35.7	12-23 m	9402	34
DTP1	Card or History	91.8	12-23 m	9402	34
DTP3	Card	45	12-23 m	9402	34
DTP3	Card or History	73	12-23 m	9402	34
HepB1	Card	35.7	12-23 m	9402	34
HepB1	Card or History	91.8	12-23 m	9402	34
HepB3	Card	45	12-23 m	9402	34
HepB3	Card or History	73	12-23 m	9402	34
Hib1	Card	35.7	12-23 m	9402	34
Hib1	Card or History	91.8	12-23 m	9402	34
Hib3	Card	45	12-23 m	9402	34
Hib3	Card or History	73	12-23 m	9402	34
MCV1	Card	44.3	12-23 m	9402	34
MCV1	Card or History	74	12-23 m	9402	34
PcV1	Card	35.9	12-23 m	9402	34
PcV1	Card or History	91.4	12-23 m	9402	34
PcV3	Card	45	12-23 m	9402	34
PcV3	Card or History	72.9	12-23 m	9402	34
Pol1	Card	35.5	12-23 m	9402	34
Pol1	Card or History	92.3	12-23 m	9402	34
Pol3	Card	44.5	12-23 m	9402	34
Pol3	Card or History	73.7	12-23 m	9402	34
YFV	Card	45.6	12-23 m	9402	34
YFV	Card or History	71.9	12-23 m	9402	34

2013 Mali Multiple Indicator Cluster Survey 2015

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	68.6	24-35 m	3069	44

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	28.8	24-35 m	3069	44
BCG	Card or History	70.1	24-35 m	3069	44
BCG	History	41.3	24-35 m	3069	44
DTP1	C or H <12 months	67	24-35 m	3069	44
DTP1	Card	29.3	24-35 m	3069	44
DTP1	Card or History	68.9	24-35 m	3069	44
DTP1	History	39.6	24-35 m	3069	44
DTP3	C or H <12 months	50.3	24-35 m	3069	44
DTP3	Card	27.3	24-35 m	3069	44
DTP3	Card or History	53.5	24-35 m	3069	44
DTP3	History	26.3	24-35 m	3069	44
HepB1	C or H <12 months	67	24-35 m	3069	44
HepB1	Card	29.3	24-35 m	3069	44
HepB1	Card or History	68.9	24-35 m	3069	44
HepB1	History	39.6	24-35 m	3069	44
HepB3	C or H <12 months	50.3	24-35 m	3069	44
HepB3	Card	27.3	24-35 m	3069	44
HepB3	Card or History	53.5	24-35 m	3069	44
HepB3	History	26.3	24-35 m	3069	44
Hib1	C or H <12 months	67	24-35 m	3069	44
Hib1	Card	29.3	24-35 m	3069	44
Hib1	Card or History	68.9	24-35 m	3069	44
Hib1	History	39.6	24-35 m	3069	44
Hib3	C or H <12 months	50.3	24-35 m	3069	44
Hib3	Card	27.3	24-35 m	3069	44
Hib3	Card or History	53.5	24-35 m	3069	44
Hib3	History	26.3	24-35 m	3069	44
MCV1	C or H <12 months	52.1	24-35 m	3069	44
MCV1	Card	24.6	24-35 m	3069	44
MCV1	Card or History	61.5	24-35 m	3069	44
MCV1	History	36.9	24-35 m	3069	44
PCV1	C or H <12 months	61.3	24-35 m	3069	44
PCV1	Card	25.4	24-35 m	3069	44
PCV1	Card or History	63.9	24-35 m	3069	44
PCV1	History	38.6	24-35 m	3069	44
PCV3	C or H <12 months	46	24-35 m	3069	44
PCV3	Card	23.3	24-35 m	3069	44
PCV3	Card or History	48.9	24-35 m	3069	44
PCV3	History	25.6	24-35 m	3069	44
Pol1	C or H <12 months	62.3	24-35 m	3069	44
Pol1	Card	28.8	24-35 m	3069	44
Pol1	Card or History	64.3	24-35 m	3069	44
Pol1	History	35.5	24-35 m	3069	44
Pol3	C or H <12 months	30.5	24-35 m	3069	44
Pol3	Card	26.4	24-35 m	3069	44
Pol3	Card or History	32.2	24-35 m	3069	44
Pol3	History	5.8	24-35 m	3069	44
RotaC	C or H <12 months	20.5	24-35 m	3069	44
RotaC	Card	8.2	24-35 m	3069	44
RotaC	Card or History	22.1	24-35 m	3069	44
RotaC	History	13.9	24-35 m	3069	44
YFV	C or H <12 months	52.1	24-35 m	3069	44
YFV	Card	24.5	24-35 m	3069	44
YFV	Card or History	60.3	24-35 m	3069	44
YFV	History	35.8	24-35 m	3069	44

2011 Mali Enquête Démographique et de Santé 2012-13

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	81.2	12-23 m	1846	38
BCG	Card	37	12-23 m	702	38
BCG	Card or History	83.6	12-23 m	1846	38
BCG	History	46.6	12-23 m	1145	38
DTP1	C or H <12 months	78.1	12-23 m	1846	38
DTP1	Card	34.9	12-23 m	702	38
DTP1	Card or History	80.3	12-23 m	1846	38
DTP1	History	45.4	12-23 m	1145	38
DTP3	C or H <12 months	57.1	12-23 m	1846	38
DTP3	Card	29.2	12-23 m	702	38
DTP3	Card or History	63.1	12-23 m	1846	38
DTP3	History	33.8	12-23 m	1145	38
HepB1	C or H <12 months	78.1	12-23 m	1846	38
HepB1	Card	34.9	12-23 m	702	38
HepB1	Card or History	80.3	12-23 m	1846	38
HepB1	History	45.4	12-23 m	1145	38
HepB3	C or H <12 months	57.1	12-23 m	1846	38
HepB3	Card	29.2	12-23 m	702	38
HepB3	Card or History	63.1	12-23 m	1846	38
HepB3	History	33.8	12-23 m	1145	38

Hib1	C or H <12 months	78.1	12-23 m	1846	38
Hib1	Card	34.9	12-23 m	702	38
Hib1	Card or History	80.3	12-23 m	1846	38
Hib1	History	45.4	12-23 m	1145	38
Hib3	C or H <12 months	57.1	12-23 m	1846	38
Hib3	Card	29.2	12-23 m	702	38
Hib3	Card or History	63.1	12-23 m	1846	38
Hib3	History	33.8	12-23 m	1145	38
MCV1	C or H <12 months	58.6	12-23 m	1846	38
MCV1	Card	29.8	12-23 m	702	38
MCV1	Card or History	71.7	12-23 m	1846	38
MCV1	History	42	12-23 m	1145	38
Pol1	C or H <12 months	81.6	12-23 m	1846	38
Pol1	Card	35	12-23 m	702	38
Pol1	Card or History	83.6	12-23 m	1846	38
Pol1	History	48.6	12-23 m	1145	38
Pol3	C or H <12 months	46.8	12-23 m	1846	38
Pol3	Card	29.7	12-23 m	702	38
Pol3	Card or History	50	12-23 m	1846	38
Pol3	History	20.4	12-23 m	1145	38
YFV	C or H <12 months	22.9	12-23 m	1846	38
YFV	Card	28.3	12-23 m	702	38
YFV	Card or History	28.3	12-23 m	1846	38
YFV	History	0	12-23 m	1145	38

2010 Mali Enquête Démographique et de Santé 2012-13

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	73.1	24-35 m	1798	38
DTP1	C or H <12 months	69.9	24-35 m	1798	38
DTP3	C or H <12 months	49.4	24-35 m	1798	38
HepB1	C or H <12 months	69.9	24-35 m	1798	38
HepB3	C or H <12 months	49.4	24-35 m	1798	38
Hib1	C or H <12 months	69.9	24-35 m	1798	38
Hib3	C or H <12 months	49.4	24-35 m	1798	38
MCV1	C or H <12 months	54.4	24-35 m	1798	38
Pol1	C or H <12 months	75.8	24-35 m	1798	38
Pol3	C or H <12 months	38.5	24-35 m	1798	38
YFV	C or H <12 months	14.5	24-35 m	1798	38

2009 Mali Enquête Démographique et de Santé 2012-13

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	71.1	36-47 m	2053	38
DTP1	C or H <12 months	70.1	36-47 m	2053	38
DTP3	C or H <12 months	52.5	36-47 m	2053	38
HepB1	C or H <12 months	70.1	36-47 m	2053	38
HepB3	C or H <12 months	52.5	36-47 m	2053	38
Hib1	C or H <12 months	70.1	36-47 m	2053	38
Hib3	C or H <12 months	52.5	36-47 m	2053	38
MCV1	C or H <12 months	52.9	36-47 m	2053	38
Pol1	C or H <12 months	74.3	36-47 m	2053	38
Pol3	C or H <12 months	39.1	36-47 m	2053	38
YFV	C or H <12 months	11.8	36-47 m	2053	38

2009 Mali Multiple Indicator Cluster Survey 2010

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	82.9	12-23 m	5122	59
BCG	Card	53.9	12-23 m	-	59
BCG	Card or History	83.6	12-23 m	5122	59
BCG	History	29.7	12-23 m	-	59
DTP1	C or H <12 months	81.1	12-23 m	5122	59
DTP1	Card	54.6	12-23 m	-	59
DTP1	Card or History	82.2	12-23 m	5122	59
DTP1	History	27.6	12-23 m	-	59
DTP3	C or H <12 months	69.4	12-23 m	5122	59
DTP3	Card	49.3	12-23 m	-	59
DTP3	Card or History	72.1	12-23 m	5122	59
DTP3	History	22.8	12-23 m	-	59
HepB1	C or H <12 months	45.9	12-23 m	5122	59
HepB1	Card	22.6	12-23 m	-	59
HepB1	Card or History	46.3	12-23 m	5122	59
HepB1	History	23.7	12-23 m	-	59
HepB3	C or H <12 months	25.8	12-23 m	5122	59
HepB3	Card	22.9	12-23 m	-	59

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
HepB3	Card or History	26.9	12-23 m	5122	59
HepB3	History	4	12-23 m	-	59
MCV1	C or H <12 months	67.4	12-23 m	5122	59
MCV1	Card	46.6	12-23 m	-	59
MCV1	Card or History	73	12-23 m	5122	59
MCV1	History	26.4	12-23 m	-	59
Pol1	C or H <12 months	83.7	12-23 m	5122	59
Pol1	Card	54.3	12-23 m	-	59
Pol1	Card or History	84.9	12-23 m	5122	59
Pol1	History	30.6	12-23 m	-	59
Pol3	C or H <12 months	59.9	12-23 m	5122	59
Pol3	Card	49.1	12-23 m	-	59
Pol3	Card or History	62.3	12-23 m	5122	59
Pol3	History	13.2	12-23 m	-	59
YFV	C or H <12 months	67	12-23 m	5122	59
YFV	Card	45.7	12-23 m	-	59
YFV	Card or History	72.4	12-23 m	5122	59
YFV	History	26.8	12-23 m	-	59

2008 Evaluation de la couverture vaccinale du PEV Mali, 2009-2010

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	54	12-23 m	11760	65
BCG	Card or History	86	12-23 m	11760	65
BCG	History	32	12-23 m	11760	65
DTP1	Card	54	12-23 m	11760	65
DTP1	Card or History	85	12-23 m	11760	65
DTP1	History	31	12-23 m	11760	65
DTP3	Card	47	12-23 m	11760	65
DTP3	Card or History	75	12-23 m	11760	65
DTP3	History	28	12-23 m	11760	65
HepB1	Card	54	12-23 m	11760	65
HepB1	Card or History	85	12-23 m	11760	65
HepB1	History	31	12-23 m	11760	65
HepB3	Card	47	12-23 m	11760	65
HepB3	Card or History	75	12-23 m	11760	65
HepB3	History	28	12-23 m	11760	65
Hib1	Card	54	12-23 m	11760	65
Hib1	Card or History	85	12-23 m	11760	65
Hib1	History	31	12-23 m	11760	65
Hib3	Card	47	12-23 m	11760	65
Hib3	Card or History	75	12-23 m	11760	65
Hib3	History	28	12-23 m	11760	65
MCV1	Card	46	12-23 m	11760	65
MCV1	Card or History	71	12-23 m	11760	65
MCV1	History	26	12-23 m	11760	65
Pol1	Card	52	12-23 m	11760	65
Pol1	Card or History	84	12-23 m	11760	65
Pol1	History	33	12-23 m	11760	65
Pol3	Card	46	12-23 m	11760	65
Pol3	Card or History	76	12-23 m	11760	65
Pol3	History	30	12-23 m	11760	65
YFV	Card	43	12-23 m	11760	65
YFV	Card or History	74	12-23 m	11760	65
YFV	History	30	12-23 m	11760	65

2008 Mali Enquête Démographique et de Santé 2012-13

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	66.9	48-59 m	1890	38
DTP1	C or H <12 months	64.4	48-59 m	1890	38
DTP3	C or H <12 months	46.6	48-59 m	1890	38
HepB1	C or H <12 months	64.4	48-59 m	1890	38
HepB3	C or H <12 months	46.6	48-59 m	1890	38
Hib1	C or H <12 months	64.4	48-59 m	1890	38
Hib3	C or H <12 months	46.6	48-59 m	1890	38
MCV1	C or H <12 months	48.4	48-59 m	1890	38
Pol1	C or H <12 months	68.2	48-59 m	1890	38
Pol3	C or H <12 months	35.9	48-59 m	1890	38
YFV	C or H <12 months	10.4	48-59 m	1890	38

2005 Enquête Démographique et de Santé du Mali, 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	75.1	12-23 m	2626	61
BCG	Card	53.9	12-23 m	2626	61

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	76.7	12-23 m	2626	61
BCG	History	22.8	12-23 m	2626	61
DTP1	C or H <12 months	80.2	12-23 m	2626	61
DTP1	Card	59.8	12-23 m	2626	61
DTP1	Card or History	83.1	12-23 m	2626	61
DTP1	History	23.3	12-23 m	2626	61
DTP3	C or H <12 months	61.9	12-23 m	2626	61
DTP3	Card	52.6	12-23 m	2626	61
DTP3	Card or History	67.6	12-23 m	2626	61
DTP3	History	15	12-23 m	2626	61
MCV1	C or H <12 months	59.1	12-23 m	2626	61
MCV1	Card	48.6	12-23 m	2626	61
MCV1	Card or History	68.4	12-23 m	2626	61
MCV1	History	19.8	12-23 m	2626	61
Pol1	C or H <12 months	82.1	12-23 m	2626	61
Pol1	Card	59.6	12-23 m	2626	61
Pol1	Card or History	85.1	12-23 m	2626	61
Pol1	History	25.5	12-23 m	2626	61
Pol3	C or H <12 months	56.6	12-23 m	2626	61
Pol3	Card	52.8	12-23 m	2626	61
Pol3	Card or History	61.9	12-23 m	2626	61
Pol3	History	9	12-23 m	2626	61

2005 République du Mali, Programme élargi du vaccination, Revue externe éàà-

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	89	12-23 m	1710	78
DTP1	Card or History	91	12-23 m	1710	78
DTP3	Card or History	80	12-23 m	1710	78
HepB1	Card or History	87	12-23 m	1710	78
HepB3	Card or History	77	12-23 m	1710	78
MCV1	Card or History	77	12-23 m	1710	78
Pol1	Card or History	91	12-23 m	1710	78
Pol3	Card or History	81	12-23 m	1710	78
YFV	Card or History	76	12-23 m	1710	78

2000 Enquête Démographique et de Santé Mali 2001, 2002

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	63.7	12-23 m	2197	48
BCG	Card	47	12-23 m	2197	48
BCG	Card or History	69	12-23 m	2197	48
BCG	History	22	12-23 m	2197	48
DTP1	C or H <12 months	55.9	12-23 m	2197	48
DTP1	Card	43.6	12-23 m	2197	48
DTP1	Card or History	61	12-23 m	2197	48
DTP1	History	17.4	12-23 m	2197	48
DTP3	C or H <12 months	33.9	12-23 m	2197	48
DTP3	Card	31.3	12-23 m	2197	48
DTP3	Card or History	39.6	12-23 m	2197	48
DTP3	History	8.3	12-23 m	2197	48
MCV1	C or H <12 months	36.2	12-23 m	2197	48
MCV1	Card	35.7	12-23 m	2197	48
MCV1	Card or History	48.7	12-23 m	2197	48
MCV1	History	13	12-23 m	2197	48
Pol1	C or H <12 months	68	12-23 m	2197	48
Pol1	Card	46.2	12-23 m	2197	48
Pol1	Card or History	73.9	12-23 m	2197	48
Pol1	History	27.7	12-23 m	2197	48
Pol3	C or H <12 months	33.9	12-23 m	2197	48
Pol3	Card	32.9	12-23 m	2197	48
Pol3	Card or History	39.4	12-23 m	2197	48
Pol3	History	6.5	12-23 m	2197	48

1997 Enquete de couverture vaccinale au Mali 1998

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	62	12-23 m	1521	57
BCG	Card or History	84	12-23 m	1521	57
DTP1	Card	52	12-23 m	1521	57
DTP1	Card or History	79	12-23 m	1521	57
DTP3	Card	37	12-23 m	1521	57
DTP3	Card or History	52	12-23 m	1521	57
MCV1	Card	41	12-23 m	1521	57
MCV1	Card or History	57	12-23 m	1521	57
Pol3	Card	37	12-23 m	1521	57
Pol3	Card or History	52	12-23 m	1521	57

Further information and estimates for previous years are available at:
https://data.unicef.org/topic/child-health/immunization/
https://immunizationdata.who.int/listing.html