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

WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2024
data received as of June 26, 2023

BACKGROUND NOTE: Each year WHO and UNICEF jointly review reports submitted by Member States regarding national immunization coverage, finalized survey reports as well as data from the published and grey literature. Based on these data, with due consideration to potential biases and the views of local experts, WHO and UNICEF attempt to distinguish between situations where the available empirical data accurately reflect immunization system performance and those where the data are likely to be compromised and present a misleading view of immunization coverage while jointly estimating the most likely coverage levels for each country.

WHO and UNICEF estimates are country-specific; that is to say, each country's data are reviewed individually, and data are not borrowed from other countries in the absence of data. Estimates are not based on ad hoc adjustments to reported data; in some instances empirical data are available from a single source, usually the nationally reported coverage data. In cases where no data are available for a given country/vaccine/year combination, data are considered from earlier and later years and interpolated to estimate coverage for the missing year(s). In cases where data sources are mixed and show large variation, an attempt is made to identify the most likely estimate with consideration of the possible biases in available data. For methods see:

*Burton et al. 2009. WHO and UNICEF estimates of national infant immunization coverage: methods and processes.
*Burton et al. 2012. A formal representation of the WHO and UNICEF estimates of national immunization coverage: a computational logic approach.
*Brown et al. 2013. An introduction to the grade of confidence used to characterize uncertainty around the WHO and UNICEF estimates of national immunization coverage.

DATA SOURCES.

ADMINISTRATIVE coverage: Reported by national authorities and based on aggregated administrative reports from health service providers on the number of vaccinations administered during a given period (numerator data) and reported target population data (denominator data). May be biased by inaccurate numerator and/or denominator data.

OFFICIAL coverage: Estimated coverage reported by national authorities that reflects their assessment of the most likely coverage based on any combination of administrative coverage, survey-based estimates or other data sources or adjustments. Approaches to determine OFFICIAL coverage may differ across countries.

SURVEY coverage: Based on estimated coverage from population-based household surveys among children aged 12-23 months or 24-35 months following a review of survey methods and results. Information is based on the combination of vaccination history from documented evidence or caregiver recall. Survey results are considered for the appropriate birth cohort based on the period of data collection.

ABBREVIATIONS

BCG: percentage of births who received one dose of Bacillus Calmette Guerin vaccine.

DTP1 / DTP3: percentage of surviving infants who received the 1st / 3rd dose, respectively, of diphtheria and tetanus toxoid with pertussis containing vaccine.

Pol3: percentage of surviving infants who received the 3rd dose of polio containing vaccine. May be either oral or inactivated polio vaccine.

IPV1: percentage of surviving infants who received at least one dose of inactivated polio vaccine. In countries utilizing an immunization schedule recommending either (i) a primary series of three doses of oral polio vaccine (OPV) plus at least one dose of IPV where OPV is included in routine immunization and/or campaign or (ii) a sequential schedule of IPV followed by OPV, WHO and UNICEF estimates for IPV1 reflect coverage with at least one routine dose of IPV among infants <1 year of age among countries. For countries utilizing IPV containing vaccine use only, i.e., no recommended dose of OPV, the WHO and UNICEF estimate for IPV1 corresponds to coverage for the 1st dose of IPV.

Production of IPV coverage estimates, which begins in 2015, results in no change of the estimated coverage levels for the 3rd dose of polio (Pol3). For countries recommending routine immunization with a primary series of three doses of IPV alone, WHO and UNICEF estimated Pol3 coverage is equivalent to estimated coverage with three doses of IPV. For countries with a sequential schedule, estimated Pol3 coverage is based on that for the 3rd dose of polio vaccine regardless of vaccine type.

MCV1: percentage of surviving infants who received the 1st dose of measles containing vaccine. In countries where the national schedule recommends the 1st dose of MCV at 12 months or later based on the epidemiology of disease in the country, coverage estimates reflect the percentage of children who received the 1st dose of MCV as recommended.

MCV2: percentage of children who received the 2nd dose of measles containing vaccine according to the nationally recommended schedule.

RCV1: percentage of surviving infants who received the 1st dose of rubella containing vaccine. Coverage estimates are based on WHO and UNICEF estimates of coverage for the dose of measles containing vaccine that corresponds to the first measles-rubella combination vaccine. Nationally reported coverage of RCV is not taken into consideration nor are the data represented in the accompanying graph and data table.

HepBB: percentage of births which received a dose of hepatitis B vaccine within 24 hours of delivery. Estimates of hepatitis B birth dose coverage are produced only for countries with a universal birth dose policy. Estimates are not produced for countries that recommend a birth dose to infants born to HepB virus-infected mothers only or where there is insufficient information to determine whether vaccination is within 24 hours of birth.

HepB3: percentage of surviving infants who received the 3rd dose of hepatitis B containing vaccine following the birth dose.

Hib3: percentage of surviving infants who received the 3rd dose of Haemophilus influenzae type b containing vaccine.

RotaC: percentage of surviving infants who received the final recommended dose of rotavirus vaccine, which can be either the 2nd or the 3rd dose depending on the vaccine.
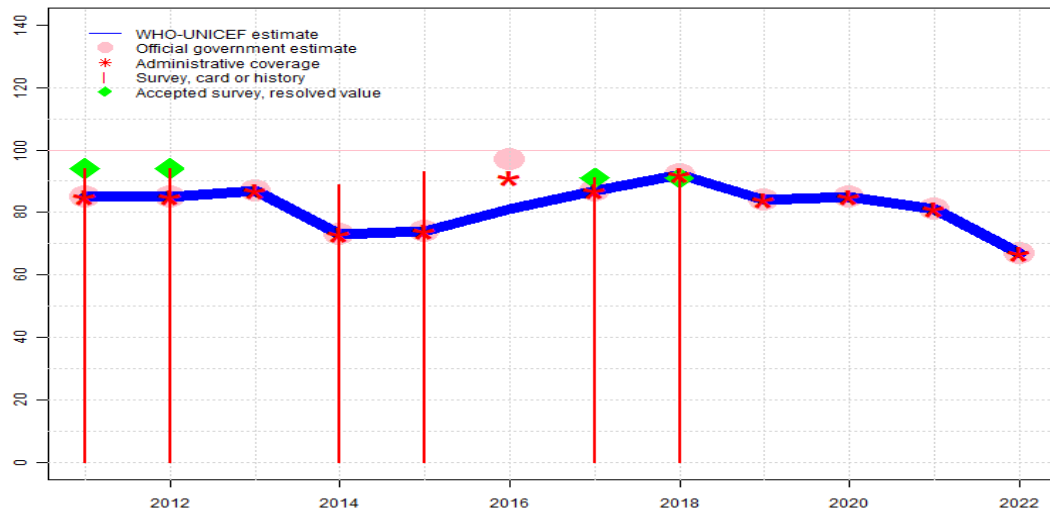
PcV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect the percentage of surviving infants who received two doses of PcV prior to the 1st birthday.

YFV: percentage of surviving infants who received one dose of yellow fever vaccine in countries where YFV is part of the national immunization schedule for children or is recommended in at risk areas; coverage estimates are annualized for the entire cohort of surviving infants.

Liberia - BCG

LBR - 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	85	85	87	73	74	81	87	92	84	85	81	67
Estimate GoC	●●●	●	●	●	●	●	●	●	●	●	●	●
Official	85	85	87	73	74	97	87	92	84	85	81	67
Administrative	85	85	87	73	74	91	87	92	84	85	81	67
Survey	94	94	NA	89	93	NA	91	91	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 reported data. Programme reports a four months vaccine stockout at national and subnational levels. Estimate challenged by: D-

2021: Estimate informed by reported data. Programme reports two months vaccine stockout at national and subnational levels. Estimate challenged by: D-

2020: Estimate informed by reported data. Estimate challenged by: D-

2019: Estimate informed by reported data. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: D-

2018: Estimate informed by reported data supported by survey. Survey evidence of 91 percent based on 1 survey(s). Estimate challenged by: D-

2017: Estimate informed by reported data supported by survey. Survey evidence of 91 percent based on 1 survey(s). Estimate challenged by: D-

2016: Estimate informed by interpolation between 2015 and 2017 levels. . GoC=Assigned by working group. Consistency with other antigens.

2015: Estimate based on reported coverage. Liberia Malaria Indicator Survey 2016 results ignored by working group. . Concerns exist with regards to vaccination history results based on caregiver recall and recovery of service delivery disruptions during the 2014 Ebola virus outbreak. In spite of this, survey results tend to support levels of coverage reported prior to the outbreak for most antigens. Estimate challenged by: S-

2014: Estimate is based on reported data. Liberia Malaria Indicator Survey 2016 results ignored by working group. Survey results based on documented evidence suggest a decline in coverage consistent with primary healthcare service disruptions associated with the Ebola virus outbreak in 2014. Vaccination history information collected by caregiver recall are inconsistent with this pattern. Estimate challenged by: S-

2013: Estimate is based on reported data. GoC=Assigned by working group. Consistency with other antigens.

2012: Estimate informed by reported data supported by survey. Survey evidence of 94 percent based on 1 survey(s). Estimate challenged by: D-

2011: Estimate informed by reported data supported by survey. Survey evidence of 94 percent based on 1 survey(s). GoC=R+ S+ D+

Liberia - DTP1

LBR - DTP1
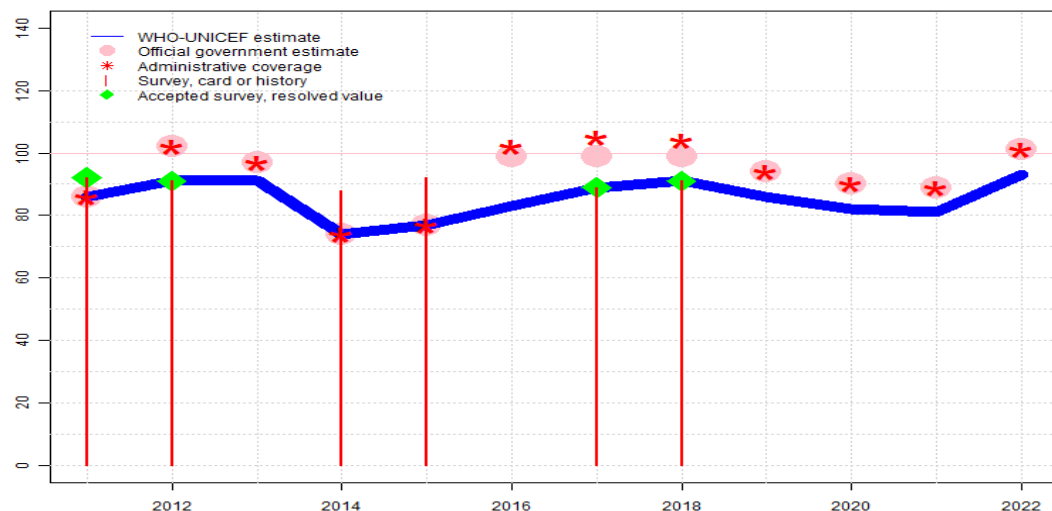
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	86	91	91	74	77	83	89	91	86	82	81	93
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	86	102	97	74	77	99	99	99	94	90	89	101
Administrative	86	102	97	74	77	102	105	104	94	90	89	101
Survey	92	91	NA	88	92	NA	89	91	NA	NA	NA	NA

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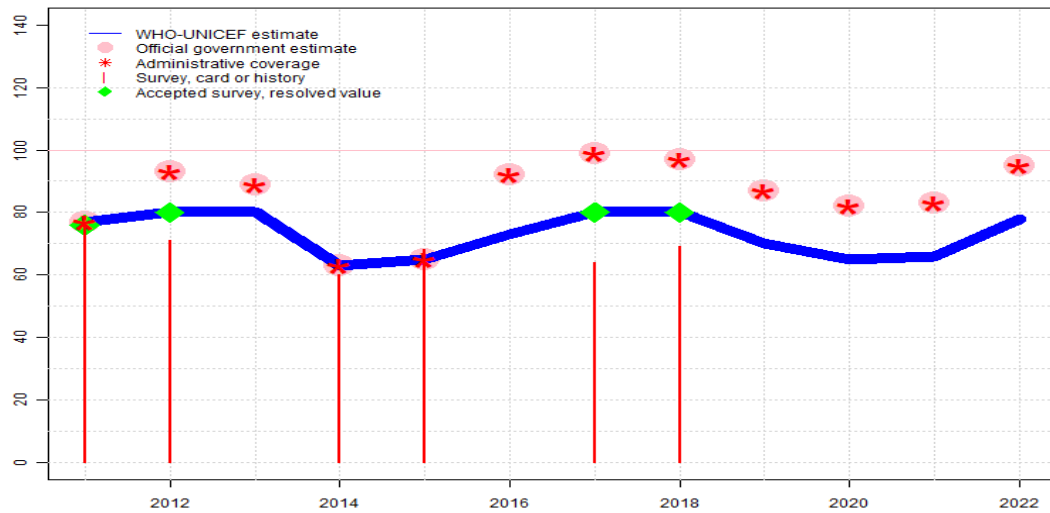
```
In all cases these estimates should be used with caution and should be assessed in light
of the objective for which they are being used.
```

Description:

2022: Reported data calibrated to 2018 levels. Estimate informed by trend in reported data. As per 2022 EPI report, programme notes that there is no clear strategy for catch-up on vaccines missed due to prolonged stockouts as well as disruptions due to the COVID-19 pandemic. Estimate challenged by: D-R-

2021: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2018 levels. Programme reports a four months vaccine stock-out at national and subnational levels. Estimate challenged by: D-R-

2019: Reported data calibrated to 2018 levels. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: D-R-

2018: Estimate of 91 percent assigned by working group. Estimate based on survey results. Estimate challenged by: D-R-

2017: Estimate of 89 percent assigned by working group. Estimate based on survey results. Estimate challenged by: D-R-

2016: Estimate informed by interpolation between 2015 and 2017 levels. . Estimate challenged by: D-R-

2015: Estimate based on reported coverage. Liberia Malaria Indicator Survey 2016 results ignored by working group. . Concerns exist with regards to vaccination history results based on caregiver recall and recovery of service delivery disruptions during the 2014 Ebola virus outbreak. In spite of this, survey results tend to support levels of coverage reported prior to the outbreak for most antigens. Estimate challenged by: S-

2014: Estimate is based on reported data. Liberia Malaria Indicator Survey 2016 results ignored by working group. Survey results based on documented evidence suggest a decline in coverage consistent with primary healthcare service disruptions associated with the Ebola virus outbreak in 2014. Vaccination history information collected by caregiver recall are inconsistent with this pattern. Estimate challenged by: S-

2013: Estimate of 91 percent assigned by working group. Estimate is based on prior year estimate informed by survey. Estimate challenged by: R-

2012: Estimate of 91 percent assigned by working group. Estimate is based on survey coverage. Reported data excluded because 102 percent greater than 100 percent. Estimate challenged by: R-

2011: Estimate informed by reported data supported by survey. Survey evidence of 92 percent based on 1 survey(s). GoC=Assigned by working group. Consistency with other antigens.

Liberia - DTP3

LBR - DTP3

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	77	80	80	63	65	73	80	80	70	65	66	78
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	77	93	89	63	65	92	99	97	87	82	83	95
Administrative	77	93	89	63	65	92	99	97	87	82	83	95
Survey	77	71	NA	60	68	NA	64	69	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 2018 levels. Estimate informed by trend in reported data. As per 2022 EPI report, programme notes that there is no clear strategy for catch-up on vaccines missed due to prolonged stockouts as well as disruptions due to the COVID-19 pandemic. Estimate challenged by: D-R-

2021: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2018 levels. Programme reports a four months vaccine stock-out at national and subnational levels. Estimate challenged by: D-R-S-

2019: Reported data calibrated to 2018 levels. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: D-R-

2018: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 80 percent based on 1 survey(s). Liberia Demographic and Health Survey 2019-2020 card or history results of 69 percent modifed for recall bias to 80 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 64 percent and 3rd dose card only coverage of 56 percent. Estimate challenged by: D-R-

2017: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 80 percent based on 1 survey(s). Liberia Demographic and Health Survey 2019-2020 card or history results of 64 percent modifed for recall bias to 80 percent based on 1st dose card or history coverage of 89 percent, 1st dose card only coverage of 50 percent and 3rd dose card only coverage of 45 percent. Estimate challenged by: D-R-

2016: Estimate informed by interpolation between 2015 and 2017 levels. . Estimate challenged by: D-R-

2015: Estimate based on reported coverage. Liberia Malaria Indicator Survey 2016 results ignored by working group. .Liberia Malaria Indicator Survey 2016 card or history results of 68 percent modifed for recall bias to 78 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 59 percent and 3rd dose card only coverage of 50 percent. Concerns exist with regards to vaccination history results based on caregiver recall and recovery of service delivery disruptions during the 2014 Ebola virus outbreak. In spite of this, survey results tend to support levels of coverage reported prior to the outbreak for most antigens. Estimate challenged by: S-

2014: Estimate is based on reported data. Liberia Malaria Indicator Survey 2016 results ignored by working group. Survey results based on documented evidence suggest a decline in coverage consistent with primary healthcare service disruptions associated with the Ebola virus outbreak in 2014. Vaccination history information collected by caregiver recall are inconsistent with this pattern.Liberia Malaria Indicator Survey 2016 card or history results of 60 percent modifed for recall bias to 75 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 46 percent and 3rd dose card only coverage of 39 percent. Estimate challenged by: S-

2013: Estimate of 80 percent assigned by working group. Estimate is based on prior year estimate informed by survey. Estimate challenged by: D-R-

2012: Survey evidence does not support reported data. Estimate based on survey results. Survey

evidence of 80 percent based on 1 survey(s). Liberia Demographic and Health Survey 2013 card or history results of 71 percent modifed for recall bias to 80 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 57 percent and 3rd dose card only coverage of 50 percent. Estimate challenged by: D-R-

2011: Estimate informed by reported data supported by survey. Survey evidence of 76 percent based on 1 survey(s). Routine Immunization Survey, Liberia 2012 card or history results of 77 percent modifed for recall bias to 76 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 70 percent and 3rd dose card only coverage of 58 percent. GoC=Assigned by working group. Consistency with other antigens.

Liberia - Pol3

LBR - 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	77	80	80	62	65	73	79	79	69	67	64	52
Estimate GoC	●	●	●	●●	●●	●	●	●	●	●	●	●
Official	77	93	88	62	65	92	99	97	87	85	82	70
Administrative	77	93	88	62	65	92	99	97	87	85	82	70
Survey	76	70	NA	52	62	NA	54	63	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 2018 levels. Programme reports a four months OPV vaccine stockout at national and subnational levels. Estimate challenged by: D-R-

2021: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-S-

2019: Reported data calibrated to 2018 levels. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: D-R-

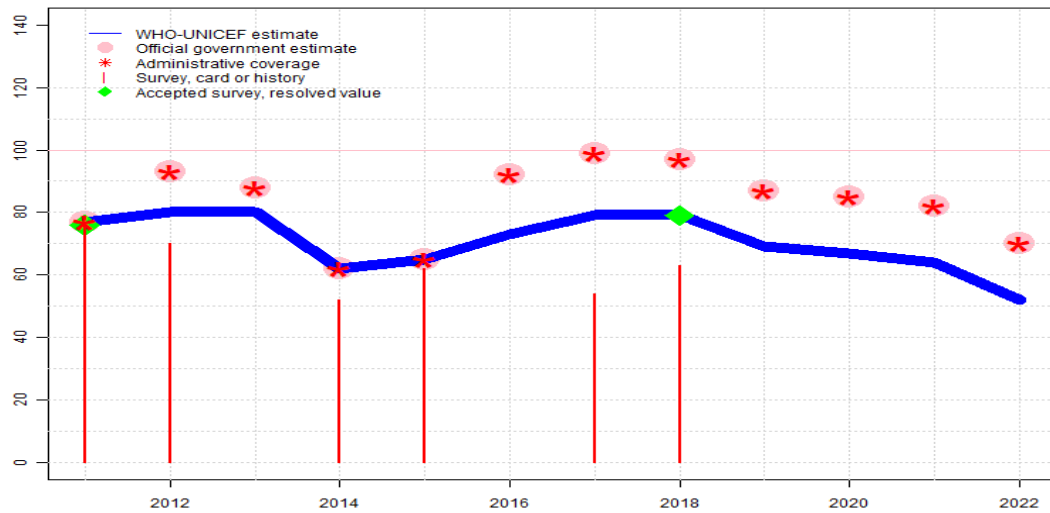2018: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 79 percent based on 1 survey(s). Liberia Demographic and Health Survey 2019-2020 card or history results of 63 percent modfied for recall bias to 79 percent based on 1st dose card or history coverage of 87 percent, 1st dose card only coverage of 64 percent and 3rd dose card only coverage of 58 percent. Estimate challenged by: D-R-

2017: Estimate based on extrapolation from 2018 survey results for consistency. Liberia Demographic and Health Survey 2019-2020 results ignored by working group. Consistency with younger cohort.Liberia Demographic and Health Survey 2019-2020 card or history results of 54 percent modfied for recall bias to 74 percent based on 1st dose card or history coverage of 82 percent, 1st dose card only coverage of 50 percent and 3rd dose card only coverage of 45 percent. Estimate challenged by: D-R-

2016: Estimate based on estimated DTP3 level for consistency. Estimate challenged by: D-R-

2015: Estimate based on reported coverage. Liberia Malaria Indicator Survey 2016 results ignored by working group. .Liberia Malaria Indicator Survey 2016 card or history results of 62 percent modfied for recall bias to 81 percent based on 1st dose card or history coverage of 93 percent, 1st dose card only coverage of 60 percent and 3rd dose card only coverage of 52 percent. Concerns exist with regards to vaccination history results based on caregiver recall and recovery of service delivery disruptions during the 2014 Ebola virus outbreak. In spite of this, survey results tend to support levels of coverage reported prior to the outbreak for most antigens. GoC=R+ D+

2014: Estimate is based on reported data. Liberia Malaria Indicator Survey 2016 results ignored by working group. Survey results based on documented evidence suggest a decline in coverage consistent with primary healthcare service disruptions associated with the Ebola virus outbreak in 2014. Vaccination history information collected by caregiver recall are inconsistent with this pattern.Liberia Malaria Indicator Survey 2016 card or history results of 52 percent modfied for recall bias to 77 percent based on 1st dose card or history coverage of 90 percent, 1st dose card only coverage of 48 percent and 3rd dose card only coverage of 41 percent. GoC=R+ D+

2013: Estimate of 80 percent assigned by working group. Estimate is based on estimated DTP3. Estimate challenged by: R-

2012: Estimate of 80 percent assigned by working group. Estimate is based on estimated coverage for DTP3. Liberia Demographic and Health Survey 2013 results ignored by working group. Survey coverage likely includes campaign doses.Liberia Demographic and Health Survey 2013 card or history results of 70 percent modfied for recall bias to 84 percent
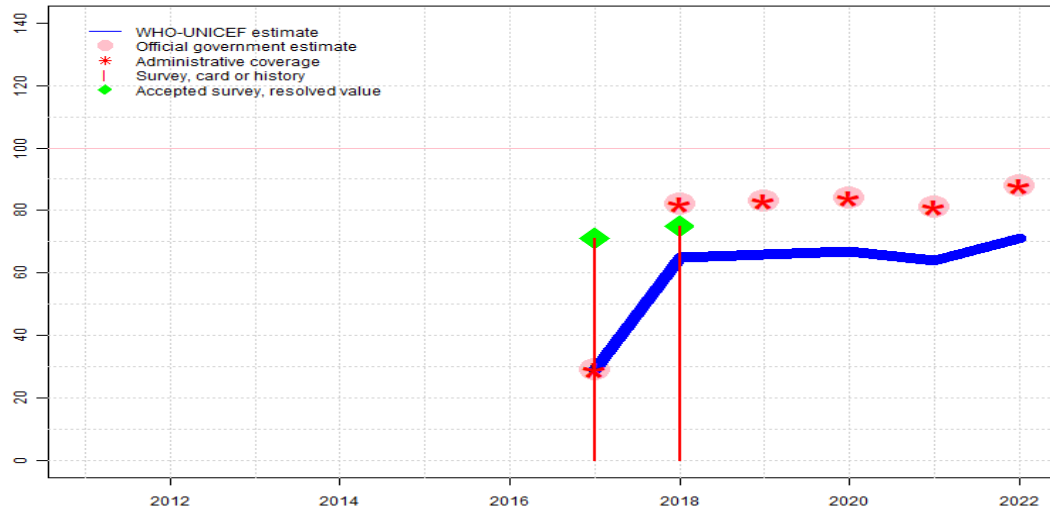
based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 58 percent and 3rd dose card only coverage of 51 percent. Estimate challenged by: D-R-

2011: Estimate informed by reported data supported by survey. Survey evidence of 76 percent based on 1 survey(s). GoC=Assigned by working group. Consistency with other antigens.

LBR - IPV1

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

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

2021: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-

2019: Reported data calibrated to 2018 levels. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: D-R-

2018: Estimate of 65 percent assigned by working group. Estimate is based on the difference between the survey estimated and reported administrative coverage for DTP3 applied to the reported coverage for IPV1. Estimate challenged by: D-R-

2017: Inactivated polio vaccine introduced during December 2017. Estimate challenged by: R-S-

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	29	65	66	67	64	71
Estimate GoC	NA	NA	NA	NA	NA	NA	●	●	●	●	●	●
Official	NA	NA	NA	NA	NA	NA	29	82	83	84	81	88
Administrative	NA	NA	NA	NA	NA	NA	29	82	83	84	81	88
Survey	NA	NA	NA	NA	NA	NA	71	75	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.

Liberia - MCV1

LBR - MCV1

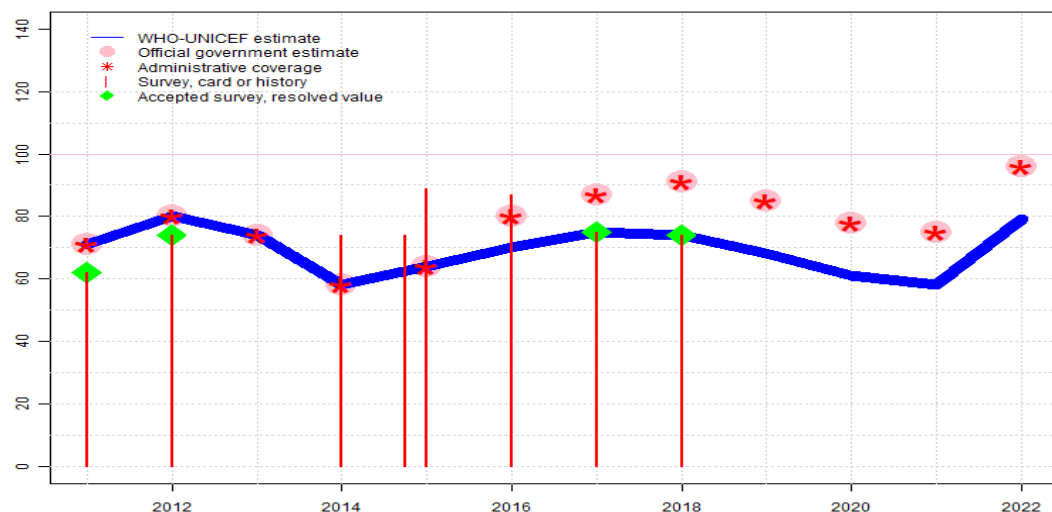|	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	71	80	74	58	64	70	75	74	68	61	58	79
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	71	80	74	58	64	80	87	91	85	78	75	96
Administrative	71	80	74	58	64	80	87	91	85	78	75	96
Survey	62	74	NA	74	*	87	75	74	NA	NA	NA	NA

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 2018 levels. Programme reports a four months vaccine stock-out at national and subnational levels. Estimate informed by trend in reported data. As per 2022 EPI report, programme notes that there is no clear strategy for catch-up on vaccines missed due to prolonged stockouts as well as disruptions due to the COVID-19 pandemic. Estimate challenged by: D-R-

2021: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-S-

2019: Reported data calibrated to 2018 levels. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: D-R-

2018: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 74 percent based on 1 survey(s). Estimate may be overestimated given more than 3000 measles cases among children under 12 months of age in 2018. Estimate challenged by: D-R-

2017: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 75 percent based on 1 survey(s). Estimate challenged by: D-R-

2016: Estimate informed by interpolation between 2015 and 2017 levels. . Survey results ignored. Sample size 0 less than 300. GoC=Assigned by working group. Consistency with other antigens.

2015: Estimate based on reported coverage. Survey results ignored. Sample size 0 less than 300. Liberia Malaria Indicator Survey 2016 results ignored by working group. .Liberia Measles Campaign Evaluation Survey 2018 results ignored by working group. . Concerns exist with regards to vaccination history results based on caregiver recall and recovery of service delivery disruptions during the 2014 Ebola virus outbreak. In spite of this, survey results tend to support levels of coverage reported prior to the outbreak for most antigens. Estimate challenged by: S-

2014: Estimate is based on reported data. Liberia Malaria Indicator Survey 2016 results ignored by working group. Survey results based on documented evidence suggest a decline in coverage consistent with primary healthcare service disruptions associated with the Ebola virus outbreak in 2014. Vaccination history information collected by caregiver recall are inconsistent with this pattern. Estimate challenged by: S-

2013: Estimate is based on reported data. Estimate challenged by: S-

2012: Estimate informed by reported data supported by survey. Survey evidence of 74 percent based on 1 survey(s). Estimate challenged by: S-

2011: Estimate informed by reported data supported by survey. Survey evidence of 62 percent based on 1 survey(s). GoC=Assigned by working group. Consistency with other antigens.

Liberia - MCV2

LBR - 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 data. Programme reports a four months vaccine stockout at national and subnational levels. Estimate informed by trend in reported data. As per 2022 EPI report, programme notes that there is no clear strategy for catch-up on vaccines missed due to prolonged stockouts as well as disruptions due to the COVID-19 pandemic. Estimate challenged by: D-

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

2020: Estimate exceptionally based on reported coverage as recent vaccine-dose introduction. Estimate challenged by: R-

2019: Second dose of measles containing vaccine introduced during 2019. Programme reports 51 percent coverage achieved in 25 percent of the national target population. Estimate is based on annualized coverage achieved in national target population. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: R-

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	13	30	35	59
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	●	●	●●	●
Official	NA	NA	NA	NA	NA	NA	NA	NA	51	30	35	59
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	51	30	35	59
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.
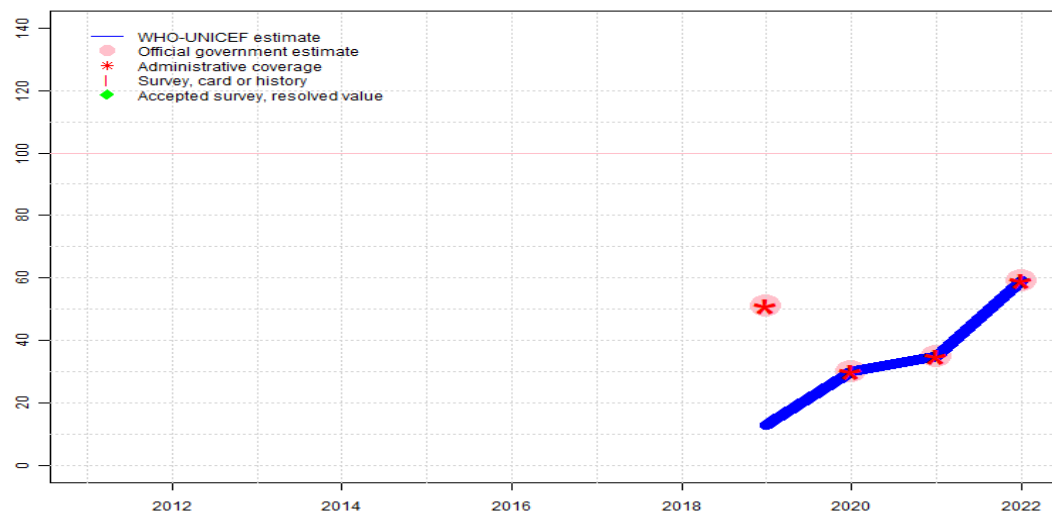
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Liberia - RCV1

LBR - 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.

Liberia - HepBB

LBR - HepBB

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

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.

	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.
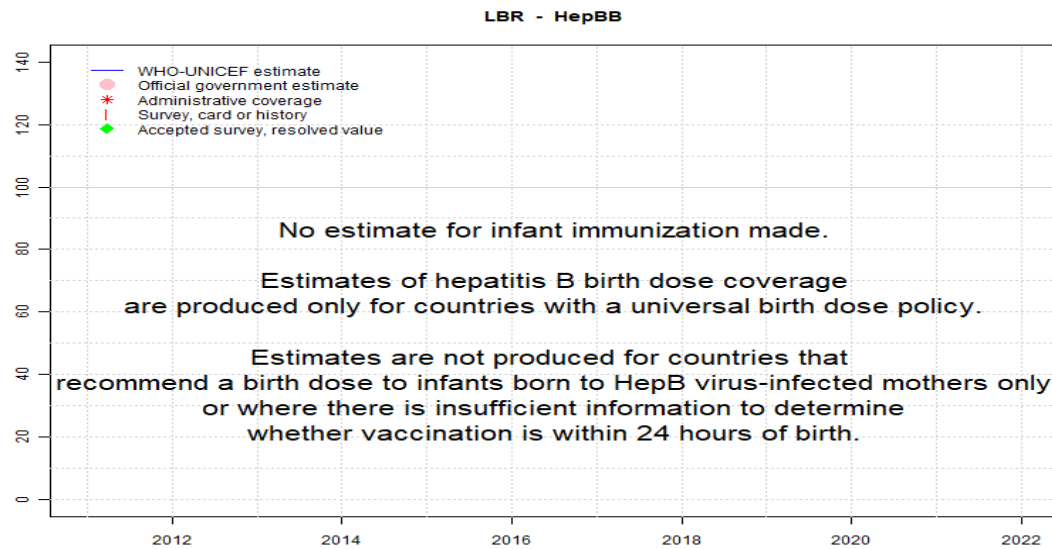
Liberia - HepB3

LBR - HepB3

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

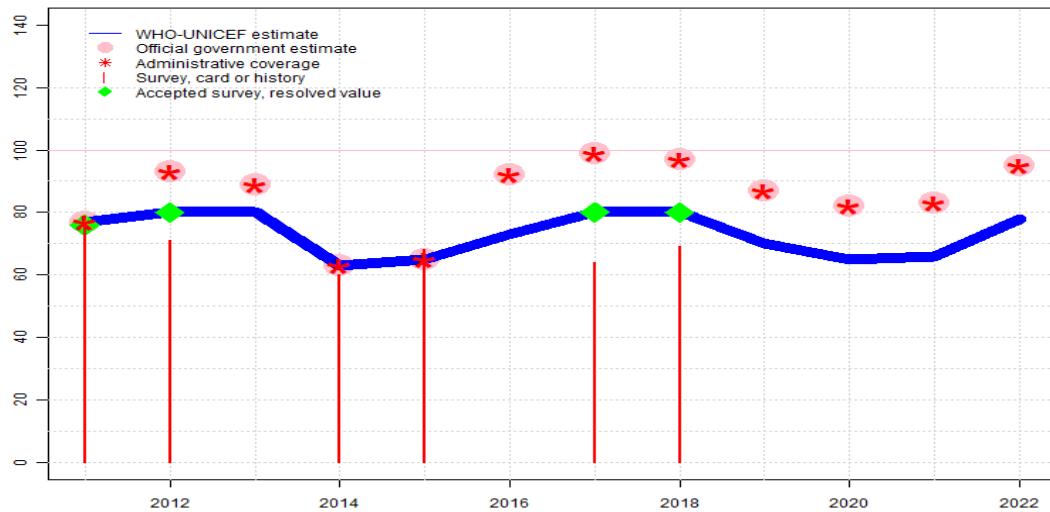|	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	77	80	80	63	65	73	80	80	70	65	66	78
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	77	93	89	63	65	92	99	97	87	82	83	95
Administrative	77	93	89	63	65	92	99	97	87	82	83	95
Survey	77	71	NA	60	68	NA	64	69	NA	NA	NA	NA

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 2018 levels. Estimate informed by trend in reported data. As per 2022 EPI report, programme notes that there is no clear strategy for catch-up on vaccines missed due to prolonged stockouts as well as disruptions due to the COVID-19 pandemic. Estimate challenged by: D-R-

2021: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2018 levels. Programme reports a four months vaccine stock-out at national and subnational levels. Estimate challenged by: D-R-S-

2019: Reported data calibrated to 2018 levels. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: D-R-

2018: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 80 percent based on 1 survey(s). Liberia Demographic and Health Survey 2019-2020 card or history results of 69 percent modifed for recall bias to 80 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 64 percent and 3rd dose card only coverage of 56 percent. Estimate challenged by: D-R-

2017: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 80 percent based on 1 survey(s). Liberia Demographic and Health Survey 2019-2020 card or history results of 64 percent modifed for recall bias to 80 percent based on 1st dose card or history coverage of 89 percent, 1st dose card only coverage of 50 percent and 3rd dose card only coverage of 45 percent. Estimate challenged by: D-R-

2016: Estimate informed by interpolation between 2015 and 2017 levels. . Estimate challenged by: D-R-

2015: Estimate based on reported coverage. Liberia Malaria Indicator Survey 2016 results ignored by working group. .Liberia Malaria Indicator Survey 2016 card or history results of 68 percent modifed for recall bias to 78 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 59 percent and 3rd dose card only coverage of 50 percent. Concerns exist with regards to vaccination history results based on caregiver recall and recovery of service delivery disruptions during the 2014 Ebola virus outbreak. In spite of this, survey results tend to support levels of coverage reported prior to the outbreak for most antigens. Estimate challenged by: S-

2014: Estimate is based on reported data. Liberia Malaria Indicator Survey 2016 results ignored by working group. Survey results based on documented evidence suggest a decline in coverage consistent with primary healthcare service disruptions associated with the Ebola virus outbreak in 2014. Vaccination history information collected by caregiver recall are inconsistent with this pattern.Liberia Malaria Indicator Survey 2016 card or history results of 60 percent modifed for recall bias to 75 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 46 percent and 3rd dose card only coverage of 39 percent. Estimate challenged by: S-

2013: Estimate of 80 percent assigned by working group. Estimate is based on prior year estimate informed by survey. Estimate challenged by: D-R-

2012: Survey evidence does not support reported data. Estimate based on survey results. Survey

evidence of 80 percent based on 1 survey(s). Liberia Demographic and Health Survey 2013 card or history results of 71 percent modifed for recall bias to 80 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 57 percent and 3rd dose card only coverage of 50 percent. Estimate challenged by: D-R-

2011: Estimate informed by reported data supported by survey. Survey evidence of 76 percent based on 1 survey(s). Routine Immunization Survey, Liberia 2012 card or history results of 77 percent modifed for recall bias to 76 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 70 percent and 3rd dose card only coverage of 58 percent. GoC=Assigned by working group. Consistency with other antigens.

Liberia - Hib3

LBR - 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	77	80	80	63	65	73	80	80	70	65	66	78
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	77	93	89	63	65	92	99	97	87	82	83	95
Administrative	77	93	89	63	65	92	99	97	87	82	83	95
Survey	77	71	NA	60	68	NA	64	69	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 2018 levels. Estimate informed by trend in reported data. As per 2022 EPI report, programme notes that there is no clear strategy for catch-up on vaccines missed due to prolonged stockouts as well as disruptions due to the COVID-19 pandemic. Estimate challenged by: D-R-

2021: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2018 levels. Programme reports a four months vaccine stock-out at national and subnational levels. Estimate challenged by: D-R-S-

2019: Reported data calibrated to 2018 levels. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: D-R-

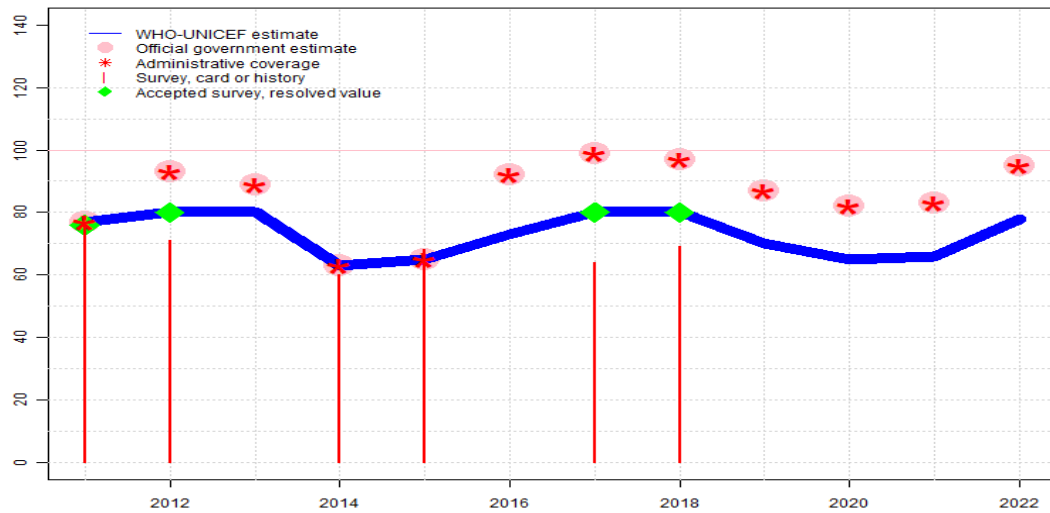**2018:** Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 80 percent based on 1 survey(s). Liberia Demographic and Health Survey 2019-2020 card or history results of 69 percent modifed for recall bias to 80 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 64 percent and 3rd dose card only coverage of 56 percent. Estimate challenged by: D-R-

2017: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 80 percent based on 1 survey(s). Liberia Demographic and Health Survey 2019-2020 card or history results of 64 percent modifed for recall bias to 80 percent based on 1st dose card or history coverage of 89 percent, 1st dose card only coverage of 50 percent and 3rd dose card only coverage of 45 percent. Estimate challenged by: D-R-

2016: Estimate informed by interpolation between 2015 and 2017 levels. . Estimate challenged by: D-R-

2015: Estimate based on reported coverage. Liberia Malaria Indicator Survey 2016 results ignored by working group. .Liberia Malaria Indicator Survey 2016 card or history results of 68 percent modifed for recall bias to 78 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 59 percent and 3rd dose card only coverage of 50 percent. Concerns exist with regards to vaccination history results based on caregiver recall and recovery of service delivery disruptions during the 2014 Ebola virus outbreak. In spite of this, survey results tend to support levels of coverage reported prior to the outbreak for most antigens. Estimate challenged by: S-

2014: Estimate is based on reported data. Liberia Malaria Indicator Survey 2016 results ignored by working group. Survey results based on documented evidence suggest a decline in coverage consistent with primary healthcare service disruptions associated with the Ebola virus outbreak in 2014. Vaccination history information collected by caregiver recall are inconsistent with this pattern.Liberia Malaria Indicator Survey 2016 card or history results of 60 percent modifed for recall bias to 75 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 46 percent and 3rd dose card only coverage of 39 percent. Estimate challenged by: S-

2013: Estimate of 80 percent assigned by working group. Estimate is based on prior year estimate informed by survey. Estimate challenged by: D-R-

2012: Survey evidence does not support reported data. Estimate based on survey results. Survey

evidence of 80 percent based on 1 survey(s). Liberia Demographic and Health Survey 2013 card or history results of 71 percent modifed for recall bias to 80 percent based on 1st dose card or history coverage of 91 percent, 1st dose card only coverage of 57 percent and 3rd dose card only coverage of 50 percent. Estimate challenged by: D-R-

2011: Estimate informed by reported data supported by survey. Survey evidence of 76 percent based on 1 survey(s). Routine Immunization Survey, Liberia 2012 card or history results of 77 percent modifed for recall bias to 76 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 70 percent and 3rd dose card only coverage of 58 percent. GoC=Assigned by working group. Consistency with other antigens.

Description:

2022: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-

2021: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-S-

2019: Reported data calibrated to 2018 levels. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: D-R-S-

2018: Estimate of 77 percent assigned by working group. Estimate based on DHS results for consistency. Estimate challenged by: D-R-

2017: Estimate of 71 percent assigned by working group. Estimate based on survey results. Estimate challenged by: D-R-

2016: Rotavirus vaccine introduced in April 2016. Estimate based on reported data for introduction year. Estimate challenged by: R-S-

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	48	71	77	64	65	68	77
Estimate GoC	NA	NA	NA	NA	NA	●	●	●	●	●	●	●
Official	NA	NA	NA	NA	NA	48	87	87	74	75	78	87
Administrative	NA	NA	NA	NA	NA	48	87	87	74	75	78	87
Survey	NA	NA	NA	12	11	NA	71	77	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.

Liberia - PcV3

LBR - 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	NA	NA	NA	25	36	73	78	78	68	65	65	74
Estimate GoC	NA	NA	NA	●	●	●	●	●	●	●	●	●
Official	NA	NA	NA	45	56	91	98	97	87	84	84	93
Administrative	NA	NA	NA	45	56	91	98	97	87	84	84	93
Survey	NA	NA	NA	53	65	NA	62	68	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 2018 levels. Estimate challenged by: D-R-

2021: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-S-

2019: Reported data calibrated to 2018 levels. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: D-R-

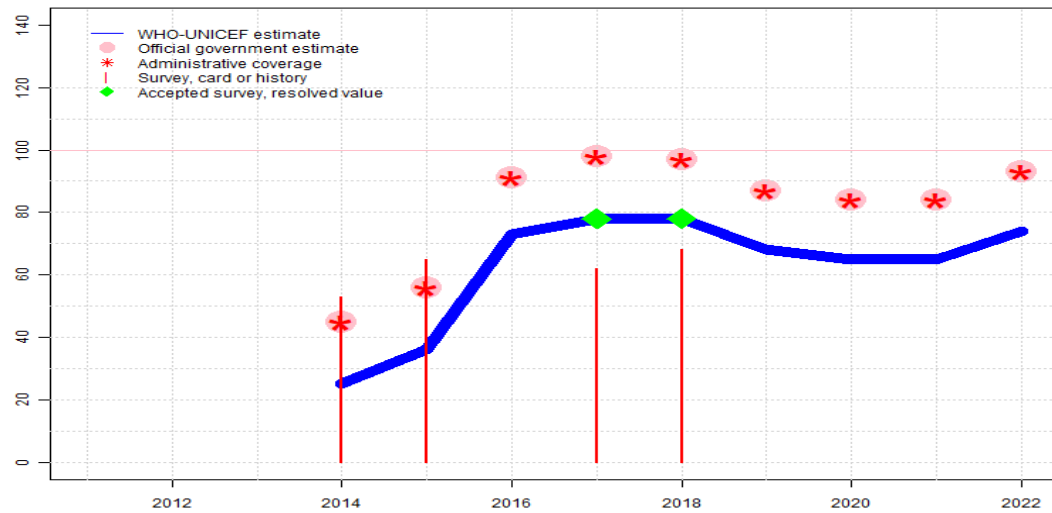2018: Estimate of 78 percent assigned by working group. Estimate based on survey results. Liberia Demographic and Health Survey 2019-2020 card or history results of 68 percent modfied for recall bias to 78 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 63 percent and 3rd dose card only coverage of 56 percent. Estimate challenged by: D-R-

2017: Estimate of 78 percent assigned by working group. Estimate based on survey results. Liberia Demographic and Health Survey 2019-2020 card or history results of 62 percent modfied for recall bias to 78 percent based on 1st dose card or history coverage of 87 percent, 1st dose card only coverage of 49 percent and 3rd dose card only coverage of 44 percent. Estimate challenged by: D-R-

2016: Estimate based on relative relationship between estimated and reported administrative DTP3 coverage applied to reported administrative PCV3. Estimate challenged by: D-R-

2015: Reported data calibrated to 2017 levels. Liberia Malaria Indicator Survey 2016 results ignored by working group. .Liberia Malaria Indicator Survey 2016 card or history results of 65 percent modfied for recall bias to 75 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 56 percent and 3rd dose card only coverage of 48 percent. Concerns exist with regards to vaccination history results based on caregiver recall and recovery of service delivery disruptions during the 2014 Ebola virus outbreak. In spite of this, survey results tend to support levels of coverage reported prior to the outbreak for most antigens. GoC=Assigned by working group. Consistency with other antigens.

2014: Reported data calibrated to 2017 levels. Liberia Malaria Indicator Survey 2016 results ignored by working group. Survey results based on documented evidence suggest a decline in coverage consistent with primary healthcare service disruptions associated with the Ebola virus outbreak in 2014. Vaccination history information collected by caregiver recall are inconsistent with this pattern.Liberia Malaria Indicator Survey 2016 card or history results of 53 percent modfied for recall bias to 67 percent based on 1st dose card or history coverage of 81 percent, 1st dose card only coverage of 40 percent and 3rd dose card only coverage of 33 percent. Pneumococcal conjugate vaccine introduced during 2014. Estimate challenged by: D-R-

Liberia - YFV

LBR - YFV

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	70	78	73	54	56	64	72	70	65	49	65	78
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	70	78	73	54	56	73	84	84	79	63	79	92
Administrative	70	78	73	54	56	73	84	84	79	63	79	92
Survey	61	73	NA	69	69	NA	72	70	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.
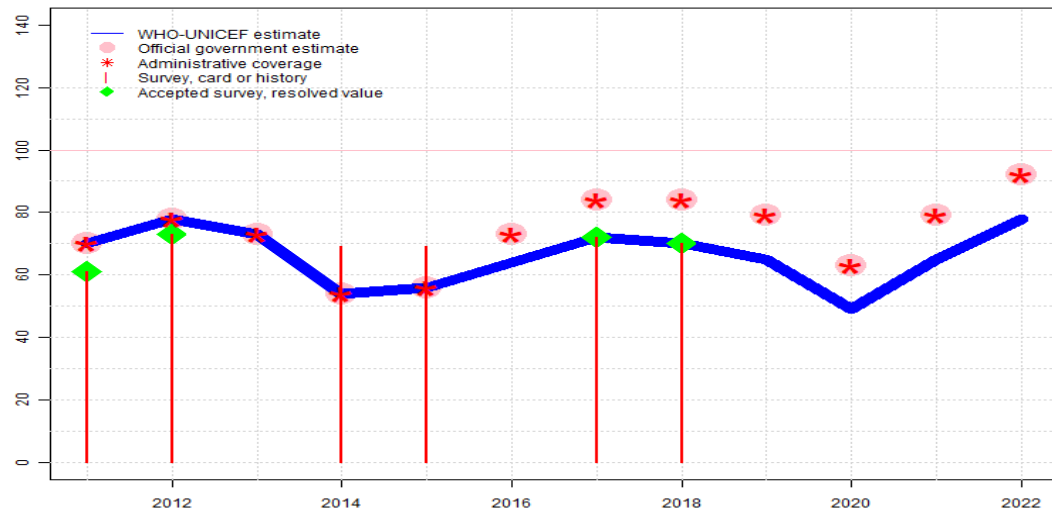
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

2022: Reported data calibrated to 2018 levels. Estimate informed by trend in reported data. As per 2022 EPI report, programme notes that there is no clear strategy for catch-up on vaccines missed due to prolonged stockouts as well as disruptions due to the COVID-19 pandemic. Estimate challenged by: D-R-

2021: Reported data calibrated to 2018 levels. Estimate of 65 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2020: Reported data calibrated to 2018 levels. Drop consistent with other vaccines. Estimate challenged by: D-R-S-

2019: Reported data calibrated to 2018 levels. Country notes financial challenges coupled with other logistical and operational issues that contributed to a decline in vaccination coverage during 2019. Estimate challenged by: D-R-

2018: 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-

2017: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 72 percent based on 1 survey(s). Estimate based on reported data, increase consistent with other vaccines yet programme reports 2-month vaccine stockout. GoC=Assigned by working group. Consistency with other antigens.

2016: Estimate informed by interpolation between 2015 and 2017 levels. . Programme reports a 2-month vaccine stockout. GoC=Assigned by working group. Consistency with other antigens.

2015: Estimate based on reported coverage. Liberia Malaria Indicator Survey 2016 results ignored by working group. . Concerns exist with regards to vaccination history results based on caregiver recall and recovery of service delivery disruptions during the 2014 Ebola virus outbreak. In spite of this, survey results tend to support levels of coverage reported prior to the outbreak for most antigens. Estimate challenged by: S-

2014: Estimate is based on reported data. Liberia Malaria Indicator Survey 2016 results ignored by working group. Survey results based on documented evidence suggest a decline in coverage consistent with primary healthcare service disruptions associated with the Ebola virus outbreak in 2014. Vaccination history information collected by caregiver recall are inconsistent with this pattern. Estimate challenged by: S-

2013: Estimate is based on reported data. Estimate challenged by: S-

2012: Estimate informed by reported data supported by survey. Survey evidence of 73 percent based on 1 survey(s). Estimate challenged by: S-

2011: Estimate informed by reported data supported by survey. Survey evidence of 61 percent based on 1 survey(s). GoC=Assigned by working group. Consistency with other antigens.

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

2018 Liberia Demographic and Health Survey 2019-2020

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	89.3	12-23 m	937	64
BCG	Card	62.6	12-23 m	605	64
BCG	Card or History	90.6	12-23 m	937	64
BCG	History	28	12-23 m	332	64
DTP1	C or H <12 months	90.9	12-23 m	937	64
DTP1	Card	63.7	12-23 m	605	64
DTP1	Card or History	91.4	12-23 m	937	64
DTP1	History	27.8	12-23 m	332	64
DTP3	C or H <12 months	67.8	12-23 m	937	64
DTP3	Card	56.5	12-23 m	605	64
DTP3	Card or History	69.2	12-23 m	937	64
DTP3	History	12.7	12-23 m	332	64
HepB1	C or H <12 months	90.9	12-23 m	937	64
HepB1	Card	63.7	12-23 m	605	64
HepB1	Card or History	91.4	12-23 m	937	64
HepB1	History	27.8	12-23 m	332	64
HepB3	C or H <12 months	67.8	12-23 m	937	64
HepB3	Card	56.5	12-23 m	605	64
HepB3	Card or History	69.2	12-23 m	937	64
HepB3	History	12.7	12-23 m	332	64
Hib1	C or H <12 months	90.9	12-23 m	937	64
Hib1	Card	63.7	12-23 m	605	64
Hib1	Card or History	91.4	12-23 m	937	64
Hib1	History	27.8	12-23 m	332	64
Hib3	C or H <12 months	67.8	12-23 m	937	64
Hib3	Card	56.5	12-23 m	605	64
Hib3	Card or History	69.2	12-23 m	937	64
Hib3	History	12.7	12-23 m	332	64
IPV1	C or H <12 months	72.5	12-23 m	937	64
IPV1	Card	49.6	12-23 m	605	64
IPV1	Card or History	74.9	12-23 m	937	64
IPV1	History	25.3	12-23 m	332	64
MCV1	C or H <12 months	68.2	12-23 m	937	64
MCV1	Card	49.8	12-23 m	605	64
MCV1	Card or History	73.8	12-23 m	937	64
MCV1	History	24	12-23 m	332	64
PCV1	C or H <12 months	87.7	12-23 m	937	64
PCV1	Card	62.7	12-23 m	605	64
PCV1	Card or History	88.3	12-23 m	937	64
PCV1	History	25.5	12-23 m	332	64
PCV3	C or H <12 months	66.8	12-23 m	937	64
PCV3	Card	55.7	12-23 m	605	64
PCV3	Card or History	68.5	12-23 m	937	64
PCV3	History	12.9	12-23 m	332	64
Pol1	C or H <12 months	86	12-23 m	937	64
Pol1	Card	63.7	12-23 m	605	64
Pol1	Card or History	86.6	12-23 m	937	64
Pol1	History	22.8	12-23 m	332	64
Pol3	C or H <12 months	62	12-23 m	937	64
Pol3	Card	57.6	12-23 m	605	64
Pol3	Card or History	63.2	12-23 m	937	64
Pol3	History	5.6	12-23 m	332	64
RotaC	C or H <12 months	76.1	12-23 m	937	64
RotaC	Card	59.9	12-23 m	605	64
RotaC	Card or History	76.9	12-23 m	937	64
RotaC	History	17	12-23 m	332	64
YFV	C or H <12 months	65.3	12-23 m	937	64
YFV	Card	47.9	12-23 m	605	64
YFV	Card or History	70.3	12-23 m	937	64
YFV	History	22.3	12-23 m	332	64

2017 Liberia Demographic and Health Survey 2019-2020

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	90.7	24-35 m	873	64
BCG	Card	50.1	24-35 m	445	64
BCG	Card or History	91.3	24-35 m	873	64
BCG	History	41.3	24-35 m	428	64
DTP1	C or H <12 months	88.8	24-35 m	873	64
DTP1	Card	50.4	24-35 m	445	64
DTP1	Card or History	89.2	24-35 m	873	64
DTP1	History	38.8	24-35 m	428	64
DTP3	C or H <12 months	60.2	24-35 m	873	64
DTP3	Card	44.6	24-35 m	445	64
DTP3	Card or History	63.6	24-35 m	873	64
DTP3	History	19	24-35 m	428	64
HepB1	C or H <12 months	88.8	24-35 m	873	64
HepB1	Card	50.4	24-35 m	445	64
HepB1	Card or History	89.2	24-35 m	873	64
HepB1	History	38.8	24-35 m	428	64
HepB3	C or H <12 months	60.2	24-35 m	873	64
HepB3	Card	44.6	24-35 m	445	64
HepB3	Card or History	63.6	24-35 m	873	64
HepB3	History	19	24-35 m	428	64
Hib1	C or H <12 months	88.8	24-35 m	873	64
Hib1	Card	50.4	24-35 m	445	64
Hib1	Card or History	89.2	24-35 m	873	64
Hib1	History	38.8	24-35 m	428	64
Hib3	C or H <12 months	60.2	24-35 m	873	64
Hib3	Card	44.6	24-35 m	445	64
Hib3	Card or History	63.6	24-35 m	873	64
Hib3	History	19	24-35 m	428	64
IPV1	C or H <12 months	67.5	24-35 m	873	64
IPV1	Card	32.5	24-35 m	445	64
IPV1	Card or History	70.9	24-35 m	873	64
IPV1	History	38.4	24-35 m	428	64
MCV1	C or H <12 months	68.3	24-35 m	873	64
MCV1	Card	39.6	24-35 m	445	64
MCV1	Card or History	75.3	24-35 m	873	64
MCV1	History	35.7	24-35 m	428	64
PCV1	C or H <12 months	87.1	24-35 m	873	64
PCV1	Card	49.3	24-35 m	445	64
PCV1	Card or History	87.4	24-35 m	873	64
PCV1	History	38.1	24-35 m	428	64
PCV3	C or H <12 months	59	24-35 m	873	64
PCV3	Card	43.5	24-35 m	445	64
PCV3	Card or History	61.9	24-35 m	873	64
PCV3	History	18.4	24-35 m	428	64
Pol1	C or H <12 months	81.6	24-35 m	873	64
Pol1	Card	50.4	24-35 m	445	64
Pol1	Card or History	81.9	24-35 m	873	64
Pol1	History	31.5	24-35 m	428	64
Pol3	C or H <12 months	51.9	24-35 m	873	64
Pol3	Card	45	24-35 m	445	64
Pol3	Card or History	54.3	24-35 m	873	64
Pol3	History	9.3	24-35 m	428	64
RotaC	C or H <12 months	70.5	24-35 m	873	64
RotaC	Card	45.7	24-35 m	445	64
RotaC	Card or History	71.2	24-35 m	873	64
RotaC	History	25.5	24-35 m	428	64
YFV	C or H <12 months	64.4	24-35 m	873	64
YFV	Card	38.6	24-35 m	445	64
YFV	Card or History	71.8	24-35 m	873	64
YFV	History	33.2	24-35 m	428	64

2016 Liberia Measles Campaign Evaluation Survey 2018

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	Card	34.4	12-23 m	-	-
MCV1	Card or History	86.9	12-23 m	-	-

2015 Liberia Integrated Measles Campaign Evaluation Survey Report 2015

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	Card	73.1	6-59 m	7883	-
MCV1	History	90.4	6-59 m	7883	-

2015 Liberia Malaria Indicator Survey 2016

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	92.4	12-23 m	543	60
BCG	Card	58.8	12-23 m	327	60
BCG	Card or History	93	12-23 m	543	60
BCG	History	34.2	12-23 m	217	60
DTP1	C or H <12 months	91	12-23 m	543	60
DTP1	Card	58.9	12-23 m	327	60
DTP1	Card or History	91.5	12-23 m	543	60
DTP1	History	32.6	12-23 m	217	60
DTP3	C or H <12 months	67.6	12-23 m	543	60
DTP3	Card	49.5	12-23 m	327	60
DTP3	Card or History	68	12-23 m	543	60
DTP3	History	18.4	12-23 m	217	60
HepB1	C or H <12 months	91	12-23 m	543	60
HepB1	Card	58.9	12-23 m	327	60
HepB1	Card or History	91.5	12-23 m	543	60
HepB1	History	32.6	12-23 m	217	60
HepB3	C or H <12 months	67.6	12-23 m	543	60
HepB3	Card	49.5	12-23 m	327	60
HepB3	Card or History	68	12-23 m	543	60
HepB3	History	18.4	12-23 m	217	60
Hib1	C or H <12 months	91	12-23 m	543	60
Hib1	Card	58.9	12-23 m	327	60
Hib1	Card or History	91.5	12-23 m	543	60
Hib1	History	32.6	12-23 m	217	60
Hib3	C or H <12 months	67.6	12-23 m	543	60
Hib3	Card	49.5	12-23 m	327	60
Hib3	Card or History	68	12-23 m	543	60
Hib3	History	18.4	12-23 m	217	60
MCV1	C or H <12 months	67.1	12-23 m	543	60
MCV1	Card	45	12-23 m	327	60
MCV1	Card or History	73.7	12-23 m	543	60
MCV1	History	28.8	12-23 m	217	60
PCV1	C or H <12 months	87.3	12-23 m	543	60
PCV1	Card	56.4	12-23 m	327	60
PCV1	Card or History	87.8	12-23 m	543	60
PCV1	History	31.4	12-23 m	217	60
PCV3	C or H <12 months	62.3	12-23 m	543	60
PCV3	Card	48.2	12-23 m	327	60
PCV3	Card or History	65	12-23 m	543	60
PCV3	History	16.8	12-23 m	217	60
Pol1	C or H <12 months	92.3	12-23 m	543	60
Pol1	Card	59.5	12-23 m	327	60
Pol1	Card or History	92.8	12-23 m	543	60
Pol1	History	33.3	12-23 m	217	60
Pol3	C or H <12 months	60.7	12-23 m	543	60
Pol3	Card	51.7	12-23 m	327	60
Pol3	Card or History	62	12-23 m	543	60
Pol3	History	10.3	12-23 m	217	60
RotaC	C or H <12 months	9.2	12-23 m	543	60
RotaC	Card	5.2	12-23 m	327	60
RotaC	Card or History	11.2	12-23 m	543	60
RotaC	History	6	12-23 m	217	60
YFV	C or H <12 months	63.2	12-23 m	543	60
YFV	Card	42.7	12-23 m	327	60
YFV	Card or History	69.1	12-23 m	543	60
YFV	History	26.4	12-23 m	217	60

2015 Liberia Measles Campaign Evaluation Survey 2018

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	Card	30.9	24-35 m	-	-
MCV1	Card or History	89.1	24-35 m	-	-

2014 Liberia Malaria Indicator Survey 2016

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	87	24-35 m	512	60
BCG	Card	44.8	24-35 m	247	60
BCG	Card or History	89.1	24-35 m	512	60
BCG	History	44.2	24-35 m	264	60
DTP1	C or H <12 months	84.5	24-35 m	512	60
DTP1	Card	45.7	24-35 m	247	60
DTP1	Card or History	88.5	24-35 m	512	60
DTP1	History	42.7	24-35 m	264	60
DTP3	C or H <12 months	54.9	24-35 m	512	60

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
DTP3	Card	38.9	24-35 m	247	60
DTP3	Card or History	59.7	24-35 m	512	60
DTP3	History	20.8	24-35 m	264	60
HepB1	C or H <12 months	84.5	24-35 m	512	60
HepB1	Card	45.7	24-35 m	247	60
HepB1	Card or History	88.5	24-35 m	512	60
HepB1	History	42.7	24-35 m	264	60
HepB3	C or H <12 months	54.9	24-35 m	512	60
HepB3	Card	38.9	24-35 m	247	60
HepB3	Card or History	59.7	24-35 m	512	60
HepB3	History	20.8	24-35 m	264	60
Hib1	C or H <12 months	84.5	24-35 m	512	60
Hib1	Card	45.7	24-35 m	247	60
Hib1	Card or History	88.5	24-35 m	512	60
Hib1	History	42.7	24-35 m	264	60
Hib3	C or H <12 months	54.9	24-35 m	512	60
Hib3	Card	38.9	24-35 m	247	60
Hib3	Card or History	59.7	24-35 m	512	60
Hib3	History	20.8	24-35 m	264	60
MCV1	C or H <12 months	60.1	24-35 m	512	60
MCV1	Card	35.3	24-35 m	247	60
MCV1	Card or History	73.7	24-35 m	512	60
MCV1	History	38.5	24-35 m	264	60
PCV1	C or H <12 months	77.7	24-35 m	512	60
PCV1	Card	39.6	24-35 m	247	60
PCV1	Card or History	81	24-35 m	512	60
PCV1	History	41.4	24-35 m	264	60
PCV3	C or H <12 months	49.1	24-35 m	512	60
PCV3	Card	32.7	24-35 m	247	60
PCV3	Card or History	53.3	24-35 m	512	60
PCV3	History	20.5	24-35 m	264	60
Pol1	C or H <12 months	87	24-35 m	512	60
Pol1	Card	47.5	24-35 m	247	60
Pol1	Card or History	90.3	24-35 m	512	60
Pol1	History	42.8	24-35 m	264	60
Pol3	C or H <12 months	48.8	24-35 m	512	60
Pol3	Card	41.1	24-35 m	247	60
Pol3	Card or History	51.6	24-35 m	512	60
Pol3	History	10.6	24-35 m	264	60
RotaC	C or H <12 months	8	24-35 m	512	60
RotaC	Card	2.3	24-35 m	247	60
RotaC	Card or History	12	24-35 m	512	60
RotaC	History	9.7	24-35 m	264	60
YFV	C or H <12 months	58.4	24-35 m	512	60
YFV	Card	33.1	24-35 m	247	60
YFV	Card or History	69	24-35 m	512	60
YFV	History	35.9	24-35 m	264	60

2012 Liberia Demographic and Health Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	93.3	12-23 m	1272	58
BCG	Card	57.5	12-23 m	743	58
BCG	Card or History	93.9	12-23 m	1272	58
BCG	History	36.4	12-23 m	529	58
DTP1	C or H <12 months	90.6	12-23 m	1272	58
DTP1	Card	56.9	12-23 m	743	58
DTP1	Card or History	91.3	12-23 m	1272	58
DTP1	History	34.4	12-23 m	529	58
DTP3	C or H <12 months	68	12-23 m	1272	58
DTP3	Card	49.9	12-23 m	743	58
DTP3	Card or History	71.4	12-23 m	1272	58
DTP3	History	21.5	12-23 m	529	58
HepB1	C or H <12 months	90.6	12-23 m	1272	58
HepB1	Card	56.9	12-23 m	743	58
HepB1	Card or History	91.3	12-23 m	1272	58
HepB1	History	34.4	12-23 m	529	58
HepB3	C or H <12 months	68	12-23 m	1272	58
HepB3	Card	49.9	12-23 m	743	58
HepB3	Card or History	71.4	12-23 m	1272	58
HepB3	History	21.5	12-23 m	529	58
Hib1	C or H <12 months	90.6	12-23 m	1272	58
Hib1	Card	56.9	12-23 m	743	58
Hib1	Card or History	91.3	12-23 m	1272	58
Hib1	History	34.4	12-23 m	529	58
Hib3	C or H <12 months	68	12-23 m	1272	58
Hib3	Card	49.9	12-23 m	743	58
Hib3	Card or History	71.4	12-23 m	1272	58
Hib3	History	21.5	12-23 m	529	58

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	C or H <12 months	64.7	12-23 m	1272	58
MCV1	Card	44.5	12-23 m	743	58
MCV1	Card or History	74.2	12-23 m	1272	58
MCV1	History	29.7	12-23 m	529	58
Pol1	C or H <12 months	95.1	12-23 m	1272	58
Pol1	Card	57.5	12-23 m	743	58
Pol1	Card or History	95.9	12-23 m	1272	58
Pol1	History	38.4	12-23 m	529	58
Pol3	C or H <12 months	66.7	12-23 m	1272	58
Pol3	Card	50.7	12-23 m	743	58
Pol3	Card or History	69.9	12-23 m	1272	58
Pol3	History	19.2	12-23 m	529	58
YFV	C or H <12 months	63.4	12-23 m	1272	58
YFV	Card	43.4	12-23 m	743	58
YFV	Card or History	72.8	12-23 m	1272	58
YFV	History	29.4	12-23 m	529	58

2011 Liberia Demographic and Health Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	88.4	24-35 m	1085	58
DTP1	C or H <12 months	87.4	24-35 m	1085	58
DTP3	C or H <12 months	64	24-35 m	1085	58
HepB1	C or H <12 months	87.4	24-35 m	1085	58
HepB3	C or H <12 months	64	24-35 m	1085	58
Hib1	C or H <12 months	87.4	24-35 m	1085	58
Hib3	C or H <12 months	64	24-35 m	1085	58
MCV1	C or H <12 months	61	24-35 m	1085	58
Pol1	C or H <12 months	91.7	24-35 m	1085	58
Pol3	C or H <12 months	64.3	24-35 m	1085	58
YFV	C or H <12 months	59.5	24-35 m	1085	58

2011 Routine Immunization Survey, Liberia 2012

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	94.3	12-23 m	1140	77
BCG	Card or Scar	89.9	12-23 m	1140	77
DTP1	Card	70.3	12-23 m	1140	77
DTP1	Card or History	92.3	12-23 m	1140	77
DTP3	Card	57.9	12-23 m	1140	77
DTP3	Card or History	76.8	12-23 m	1140	77
HepB1	Card	70.3	12-23 m	1140	77
HepB1	Card or History	92.3	12-23 m	1140	77
HepB3	Card	57.9	12-23 m	1140	77
HepB3	Card or History	76.8	12-23 m	1140	77
Hib1	Card	70.3	12-23 m	1140	77
Hib1	Card or History	92.3	12-23 m	1140	77
Hib3	Card	57.9	12-23 m	1140	77
Hib3	Card or History	76.8	12-23 m	1140	77
MCV1	Card	45.6	12-23 m	1140	77
MCV1	Card or History	61.8	12-23 m	1140	77
Pol1	Card	70.2	12-23 m	1140	77
Pol1	Card or History	91.8	12-23 m	1140	77
Pol3	Card	57.8	12-23 m	1140	77
Pol3	Card or History	76.4	12-23 m	1140	77
YFV	Card	44.7	12-23 m	1140	77
YFV	Card or History	61.2	12-23 m	1140	77

2010 Liberia Demographic and Health Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	87.1	36-47 m	1198	58
DTP1	C or H <12 months	83.4	36-47 m	1198	58
DTP3	C or H <12 months	57.6	36-47 m	1198	58
HepB1	C or H <12 months	83.4	36-47 m	1198	58
HepB3	C or H <12 months	57.6	36-47 m	1198	58
Hib1	C or H <12 months	83.4	36-47 m	1198	58
Hib3	C or H <12 months	57.6	36-47 m	1198	58
MCV1	C or H <12 months	60.8	36-47 m	1198	58
Pol1	C or H <12 months	85.3	36-47 m	1198	58
Pol3	C or H <12 months	54.7	36-47 m	1198	58
YFV	C or H <12 months	61.4	36-47 m	1198	58

2009 Liberia Demographic and Health Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	88.1	48-59 m	1159	58
DTP1	C or H <12 months	81.3	48-59 m	1159	58
DTP3	C or H <12 months	55.9	48-59 m	1159	58
HepB1	C or H <12 months	81.3	48-59 m	1159	58
HepB3	C or H <12 months	55.9	48-59 m	1159	58
Hib1	C or H <12 months	81.3	48-59 m	1159	58
Hib3	C or H <12 months	55.9	48-59 m	1159	58
MCV1	C or H <12 months	53.9	48-59 m	1159	58
Pol1	C or H <12 months	85.9	48-59 m	1159	58
Pol3	C or H <12 months	54.6	48-59 m	1159	58
YFV	C or H <12 months	50.7	48-59 m	1159	58

2006 Liberia Demographic and Health Survey 2007

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	76.5	12-23 m	977	48
BCG	Card	46.8	12-23 m	977	48
BCG	Card or History	77.1	12-23 m	977	48
BCG	History	30.3	12-23 m	977	48
DTP1	C or H <12 months	74.6	12-23 m	977	48
DTP1	Card	46.2	12-23 m	977	48
DTP1	Card or History	75.3	12-23 m	977	48
DTP1	History	29.1	12-23 m	977	48
DTP3	C or H <12 months	47.2	12-23 m	977	48
DTP3	Card	36.9	12-23 m	977	48
DTP3	Card or History	50.3	12-23 m	977	48
DTP3	History	13.3	12-23 m	977	48
MCV1	C or H <12 months	52.6	12-23 m	977	48
MCV1	Card	37.6	12-23 m	977	48
MCV1	Card or History	63	12-23 m	977	48
MCV1	History	25.4	12-23 m	977	48
Pol1	C or H <12 months	81.9	12-23 m	977	48
Pol1	Card	45.1	12-23 m	977	48
Pol1	Card or History	83.2	12-23 m	977	48
Pol1	History	38.1	12-23 m	977	48
Pol3	C or H <12 months	46.9	12-23 m	977	48
Pol3	Card	36.4	12-23 m	977	48
Pol3	Card or History	49.4	12-23 m	977	48
Pol3	History	13.1	12-23 m	977	48

2004 Liberia 2005 EPI Cluster Survey

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	57.7	12-23 m	2907	44
BCG	Card or history	69.3	12-23 m	2907	44
DTP1	Card	34.8	12-23 m	2907	44
DTP1	Card or history	65.2	12-23 m	2907	44
DTP3	Card	17.6	12-23 m	2907	44
DTP3	Card or history	27.3	12-23 m	2907	44
MCV1	Card	25.1	12-23 m	2907	44
MCV1	Card or history	40.6	12-23 m	2907	44
Pol1	Card	33.7	12-23 m	2907	44
Pol1	Card or history	89.2	12-23 m	2907	44
Pol3	Card	18.2	12-23 m	2907	44
Pol3	Card or history	51.7	12-23 m	2907	44
YFV	Card	18.1	12-23 m	2907	44
YFV	Card or history	34.3	12-23 m	2907	44

1999 IMCI Household Baseline, Preliminary Report, 2000

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	86.5	12-23 m	89	-
DTP1	Card or History	91	12-23 m	89	-
DTP3	Card or History	64	12-23 m	89	-
MCV1	Card or History	78.7	12-23 m	89	-
Pol1	Card or History	94.4	12-23 m	89	-
Pol3	Card or History	74.2	12-23 m	89	-

1999 Liberia National Nutrition Survey 1999-2000, 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	73	12-23 m	1000	27
BCG	Card	49.6	12-23 m	1000	27
BCG	Card or History	82.2	12-23 m	1000	27

BCG	History	32.6	12-23 m	1000	27		MCV1	Card or History	68.6	12-23 m	1000	27

BCG	History	32.6	12-23 m	1000	27
DTP1	C or H <12 months	74.2	12-23 m	1000	27
DTP1	Card	50.4	12-23 m	1000	27
DTP1	Card or History	84.3	12-23 m	1000	27
DTP1	History	34	12-23 m	1000	27
DTP3	C or H <12 months	38.4	12-23 m	1000	27
DTP3	Card	30.5	12-23 m	1000	27
DTP3	Card or History	44.3	12-23 m	1000	27
DTP3	History	13.9	12-23 m	1000	27
MCV1	C or H <12 months	49.8	12-23 m	1000	27
MCV1	Card	38.8	12-23 m	1000	27
MCV1	Card or History	68.6	12-23 m	1000	27
MCV1	History	29.9	12-23 m	1000	27
Pol1	C or H <12 months	83.7	12-23 m	1000	27
Pol1	Card	50.4	12-23 m	1000	27
Pol1	Card or History	94.3	12-23 m	1000	27
Pol1	History	43.9	12-23 m	1000	27
Pol3	C or H <12 months	48.2	12-23 m	1000	27
Pol3	Card	31.2	12-23 m	1000	27
Pol3	Card or History	55.4	12-23 m	1000	27
Pol3	History	24.2	12-23 m	1000	27

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