

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

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

\*Burton et al. 2009. WHO and UNICEF estimates of national infant immunization coverage: methods and processes.

\*Burton et al. 2012. A formal representation of the WHO and UNICEF estimates of national immunization coverage: a computational logic approach.

\*Brown et al. 2013. An introduction to the grade of confidence used to characterize uncertainty around the WHO and UNICEF estimates of national immunization coverage.

## DATA SOURCES.

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

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

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

## ABBREVIATIONS

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

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

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

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

immunization and/or campaign or (ii) a sequential schedule of IPV followed by OPV, WHO and UNICEF estimates for IPV1 reflect coverage with at least one routine dose of IPV among infants <1 year of age among countries. For countries utilizing IPV containing vaccine use only, i.e., no recommended dose of OPV, the WHO and UNICEF estimate for IPV1 corresponds to coverage for the 1st dose of IPV.

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

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

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

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

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

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

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

**RotaC:** percentage of surviving infants who received the final recommended dose of rotavirus vaccine, which can be either the 2nd or the 3rd dose depending on the vaccine.

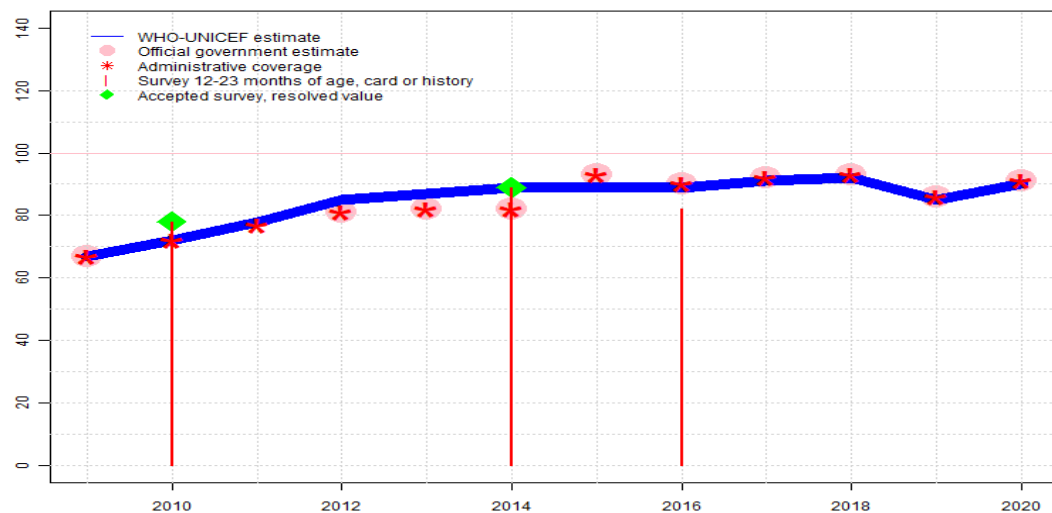
**PcV3:** percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

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

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# Lao People's Democratic Republic - BCG

LAO - BCG



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	67	72	78	85	87	89	89	89	91	92	85	90
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	67	NA	NA	81	82	82	93	90	92	93	86	91
Administrative	67	72	77	81	82	82	93	90	92	93	86	91
Survey	NA	78	NA	NA	NA	89	NA	82	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

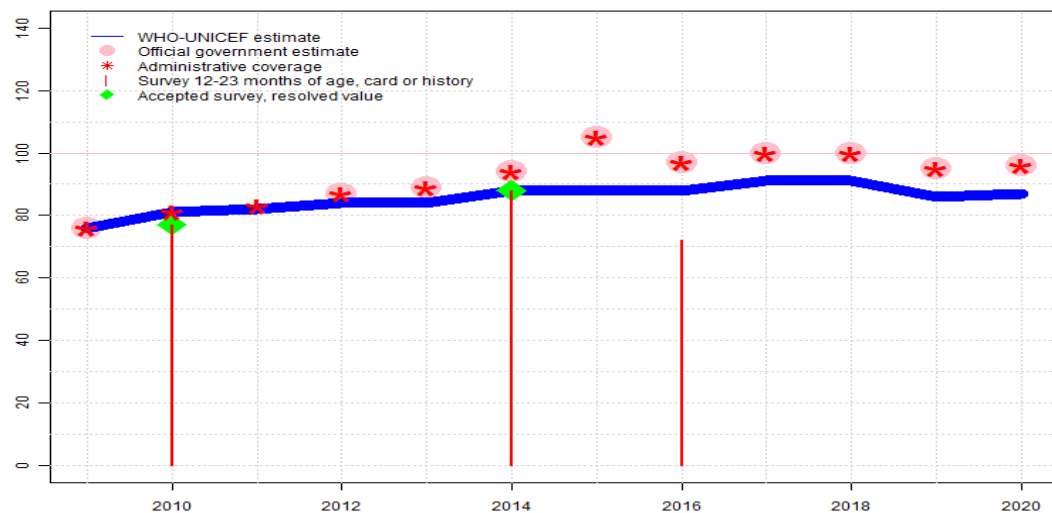
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2020: Reported data calibrated to 2016 levels. Estimate challenged by: R-
- 2019: Reported data calibrated to 2016 levels. Programme reports one month vaccine stock-out at national and district levels. Estimate of 85 percent changed from previous revision value of 79 percent. Estimate challenged by: R-
- 2018: Reported data calibrated to 2016 levels. Estimate of 92 percent changed from previous revision value of 79 percent. Estimate challenged by: R-
- 2017: Reported data calibrated to 2016 levels. Estimate of 91 percent changed from previous revision value of 81 percent. Estimate challenged by: R-
- 2016: Estimate of 89 percent assigned by working group. Estimate based on survey results for 2014 cohort as reported number of vaccinated children is similar between 2014 and 2016. Lao Social Indicator Survey II (LSIS II) 2017 results ignored by working group. Survey results inconsistent with previous survey and across vaccine doses. Estimate of 89 percent changed from previous revision value of 78 percent. Estimate challenged by: R-
- 2015: Estimate based on interpolation between 2014 and 2016 levels. . Reported denominator decline between 2014 and 2015 may explain observed increase in reported coverage. Estimate of 89 percent changed from previous revision value of 83 percent. Estimate challenged by: R-
- 2014: Estimate of 89 percent assigned by working group. Estimate based on survey results. Programme reports one month stock-out at national level. Estimate of 89 percent changed from previous revision value of 82 percent. Estimate challenged by: R-
- 2013: Reported data calibrated to 2010 and 2014 levels. Estimate of 87 percent changed from previous revision value of 82 percent. Estimate challenged by: R-
- 2012: Reported data calibrated to 2010 and 2014 levels. Estimate of 85 percent changed from previous revision value of 81 percent. Estimate challenged by: R-
- 2011: Reported data calibrated to 2010 and 2014 levels. Estimate of 78 percent changed from previous revision value of 77 percent. Estimate challenged by: R-
- 2010: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 78 percent based on 1 survey(s). Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. Estimate challenged by: S-

# Lao People's Democratic Republic - DTP1

LAO - DTP1



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	76	81	82	84	84	88	88	88	91	91	86	87
Estimate GoC	●●●	●	●	●	●	●	●	●	●	●	●	●
Official	76	NA	NA	87	89	94	105	97	100	100	95	96
Administrative	76	81	83	87	89	94	105	97	100	100	95	96
Survey	NA	77	NA	NA	NA	88	NA	72	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

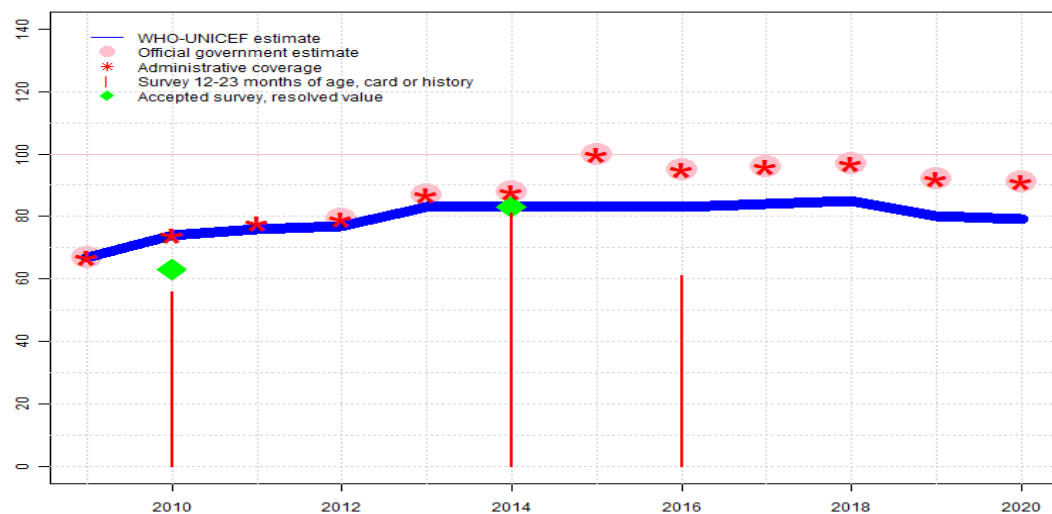
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2020: Reported data calibrated to 2016 levels. Estimate challenged by: R-
- 2019: Reported data calibrated to 2016 levels. Estimate of 86 percent changed from previous revision value of 73 percent. Estimate challenged by: R-
- 2018: Reported data calibrated to 2016 levels. Estimate of 91 percent changed from previous revision value of 73 percent. Estimate challenged by: R-
- 2017: Reported data calibrated to 2016 levels. Estimate of 91 percent changed from previous revision value of 76 percent. Estimate challenged by: R-
- 2016: Estimate of 88 percent assigned by working group. Estimate based on survey results for 2014 cohort as reported number of vaccinated children is similar between 2014 and 2016. Lao Social Indicator Survey II (LSIS II) 2017 results ignored by working group. Survey results inconsistent with previous survey and across vaccine doses. Estimate of 88 percent changed from previous revision value of 72 percent. Estimate challenged by: R-
- 2015: Estimate based on interpolation between 2014 and 2016 levels. . Reported data excluded because 105 percent greater than 100 percent. Reported denominator decline between 2014 and 2015 may explain observed increase in reported coverage. Estimate of 88 percent changed from previous revision value of 86 percent. Estimate challenged by: D-R-
- 2014: Estimate of 88 percent assigned by working group. Estimate based on survey results. Estimate of 88 percent changed from previous revision value of 94 percent. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2010 and 2014 levels. Estimate of 84 percent changed from previous revision value of 89 percent. Estimate challenged by: D-R-
- 2012: Reported data calibrated to 2010 and 2014 levels. Estimate of 84 percent changed from previous revision value of 87 percent. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2010 and 2014 levels. Estimate of 82 percent changed from previous revision value of 83 percent. Estimate challenged by: R-
- 2010: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 77 percent based on 1 survey(s). Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. GoC=R+ S+ D+

# Lao People's Democratic Republic - DTP3

LAO - DTP3



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	67	74	76	77	83	83	83	83	84	85	80	79
Estimate GoC	●●●	●	●	●	●	●	●	●	●	●	●	●
Official	67	NA	NA	79	87	88	100	95	96	97	92	91
Administrative	67	74	78	79	87	88	100	95	96	97	92	91
Survey	NA	56	NA	NA	NA	81	NA	61	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

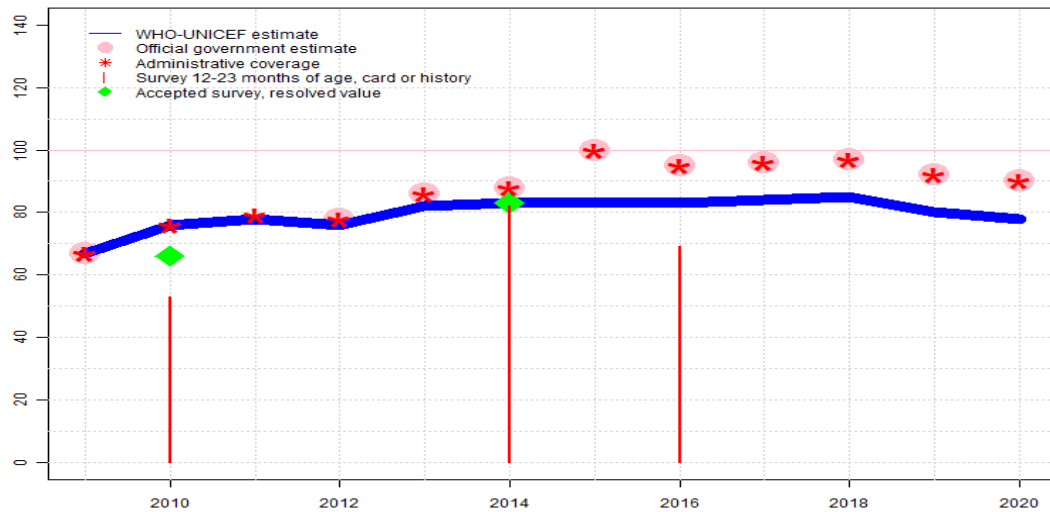
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2020: Reported data calibrated to 2016 levels. Estimate challenged by: R-
- 2019: Reported data calibrated to 2016 levels. Estimate of 80 percent changed from previous revision value of 68 percent. Estimate challenged by: R-
- 2018: Reported data calibrated to 2016 levels. Estimate of 85 percent changed from previous revision value of 68 percent. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2016 levels. Estimate of 84 percent changed from previous revision value of 69 percent. Estimate challenged by: D-R-
- 2016: Estimate of 83 percent assigned by working group. Estimate based on survey results for 2014 cohort as reported number of vaccinated children is similar between 2014 and 2016. Lao Social Indicator Survey II (LSIS II) 2017 results ignored by working group. Survey results inconsistent with previous survey and across vaccine doses. Lao Social Indicator Survey II (LSIS II) 2017 card or history results of 61 percent modified for recall bias to 66 percent based on 1st dose card or history coverage of 72 percent, 1st dose card only coverage of 47 percent and 3rd dose card only coverage of 43 percent. Estimate of 83 percent changed from previous revision value of 66 percent. Estimate challenged by: D-R-
- 2015: Estimate based on interpolation between 2014 and 2016 levels. . Reported denominator decline between 2014 and 2015 may explain observed increase in reported coverage. Estimate of 83 percent changed from previous revision value of 81 percent. Estimate challenged by: D-R-
- 2014: Estimate of 83 percent assigned by working group. Estimate based on survey results. National Immunization Survey 2015, Lao People's Democratic Republic (Lao PDR) card or history results of 81 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 73 percent and 3rd dose card only coverage of 69 percent. Estimate of 83 percent changed from previous revision value of 88 percent. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2010 and 2014 levels. Estimate of 83 percent changed from previous revision value of 87 percent. Estimate challenged by: D-R-
- 2012: Reported data calibrated to 2010 and 2014 levels. Estimate of 77 percent changed from previous revision value of 79 percent. Estimate challenged by: R-S-
- 2011: Reported data calibrated to 2010 and 2014 levels. Estimate of 76 percent changed from previous revision value of 78 percent. Estimate challenged by: R-S-
- 2010: Estimate is based on reported coverage supported by survey. Lao Social Indicator Survey (LSIS) 2011 - 12 (Multiple Indicator Cluster Survey / Demographic and Health Survey) card or history results of 56 percent modified for recall bias to 63 percent based on 1st dose card or history coverage of 77 percent, 1st dose card only coverage of 45 percent and 3rd dose card only coverage of 37 percent. Estimate challenged by: D-S-
- 2009: Estimate based on coverage reported by national government. GoC=R+ S+ D+

# Lao People's Democratic Republic - Pol3

LAO - Pol3



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	67	76	78	76	82	83	83	83	84	85	80	78
Estimate GoC	●●●	●	●	●	●	●	●	●	●	●	●	●
Official	67	NA	NA	78	86	88	100	95	96	97	92	90
Administrative	67	76	79	78	86	88	100	95	96	97	92	90
Survey	NA	53	NA	NA	NA	82	NA	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: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

- 2020: Reported data calibrated to 2016 levels. Estimate challenged by: R-
- 2019: Reported data calibrated to 2016 levels. Estimate of 80 percent changed from previous revision value of 67 percent. Estimate challenged by: R-
- 2018: Reported data calibrated to 2016 levels. Estimate of 85 percent changed from previous revision value of 67 percent. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2016 levels. Estimate of 84 percent changed from previous revision value of 68 percent. Estimate challenged by: D-R-
- 2016: Estimate of 83 percent assigned by working group. Estimate based on survey results for 2014 cohort as reported number of vaccinated children is similar between 2014 and 2016. Lao Social Indicator Survey II (LSIS II) 2017 results ignored by working group. Survey results inconsistent with previous survey and across vaccine doses. Lao Social Indicator Survey II (LSIS II) 2017 results ignored by working group. Survey results likely reflect contribution of polio campaigns conducted around time of survey. Lao Social Indicator Survey II (LSIS II) 2017 card or history results of 69 percent modified for recall bias to 76 percent based on 1st dose card or history coverage of 84 percent, 1st dose card only coverage of 51 percent and 3rd dose card only coverage of 46 percent. Activities to control outbreak of vaccine-derived poliovirus may explain, at least in part, the decrease in coverage with routine vaccines. Estimate of 83 percent changed from previous revision value of 66 percent. Estimate challenged by: D-R-
- 2015: Estimate based on interpolation between 2014 and 2016 levels. . Reported denominator decline between 2014 and 2015 may explain observed increase in reported coverage. Estimate of 83 percent changed from previous revision value of 80 percent. Estimate challenged by: D-R-
- 2014: Estimate of 83 percent assigned by working group. Estimate based on survey results. National Immunization Survey 2015, Lao People's Democratic Republic (Lao PDR) card or history results of 82 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 73 percent and 3rd dose card only coverage of 69 percent. Estimate of 83 percent changed from previous revision value of 88 percent. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2010 and 2014 levels. Estimate of 82 percent changed from previous revision value of 86 percent. Estimate challenged by: D-R-
- 2012: Reported data calibrated to 2010 and 2014 levels. Estimate of 76 percent changed from previous revision value of 78 percent. Estimate challenged by: R-
- 2011: Reported data calibrated to 2010 and 2014 levels. Estimate of 78 percent changed from previous revision value of 79 percent. Estimate challenged by: R-S-
- 2010: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 66 percent based on 1 survey(s). Lao Social Indicator Survey (LSIS) 2011 - 12 (Multiple Indicator Cluster Survey / Demographic and Health Survey) card or history results of 53 percent modified for recall bias to 66 percent based on 1st dose card or history coverage of 78 percent, 1st dose card only coverage of 44 percent and 3rd dose card only coverage of 37 percent. Estimate challenged by: D-

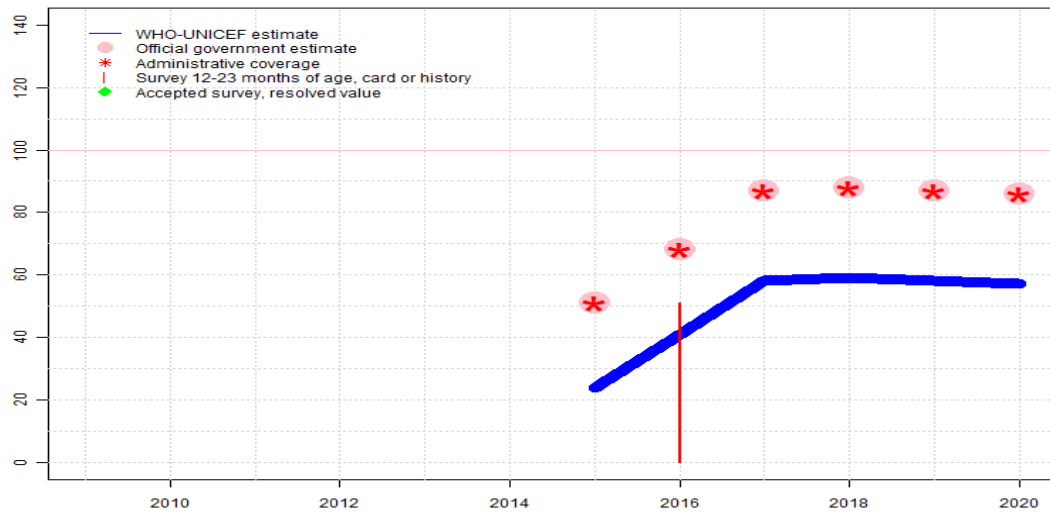
# Lao People's Democratic Republic - Pol3

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2009: Estimate based on coverage reported by national government. GoC=R+ S+ D+

# Lao People's Democratic Republic - IPV1

LAO - IPV1



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	NA	NA	NA	NA	NA	NA	24	41	58	59	58	57
Estimate GoC	NA	NA	NA	NA	NA	NA	•	•	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	51	68	87	88	87	86
Administrative	NA	NA	NA	NA	NA	NA	51	68	87	88	87	86
Survey	NA	NA	NA	NA	NA	NA	NA	51	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

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

2020: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Estimate of 58 percent changed from previous revision value of 60 percent. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Estimate of 59 percent changed from previous revision value of 60 percent. Estimate challenged by: D-R-

2017: Estimate of 58 percent assigned by working group. Estimate based on the difference with DTP3 reported coverage applied to the DTP3 estimated coverage. Estimate of 58 percent changed from previous revision value of 61 percent. Estimate challenged by: D-R-

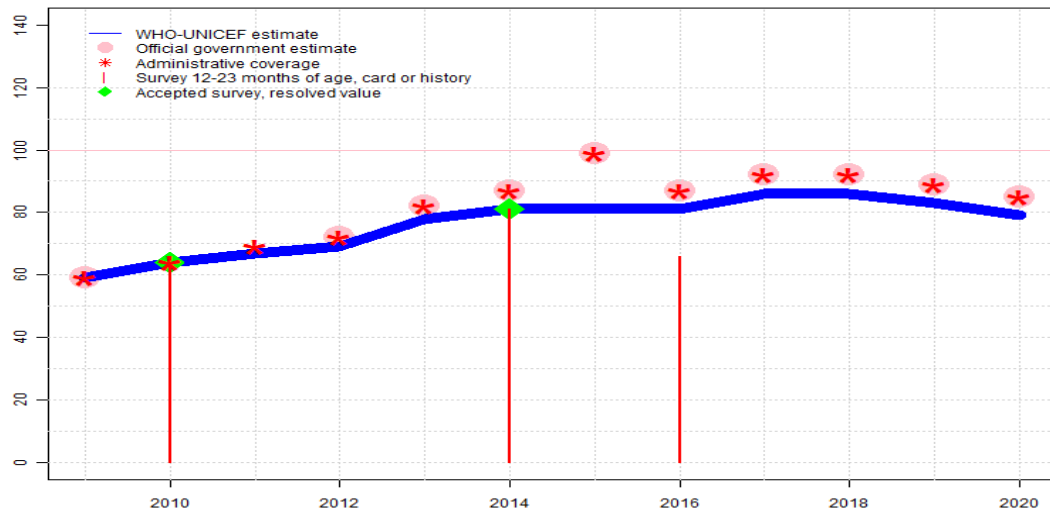
2016: Estimate of 41 percent assigned by working group. Estimate based on difference in reported numerator between DTP3 and IPV1 applied to WUENIC estimated coverage. Lao Social Indicator Survey II (LSIS II) 2017 results ignored by working group. Survey results inconsistent with previous survey and across vaccine doses. Estimate of 41 percent changed from previous revision value of 51 percent. Estimate challenged by: D-R-

2015: Reported data calibrated to 2016 levels. Reported denominator decline between 2014 and 2015 may explain observed increase in reported coverage. Estimate of 24 percent changed from previous revision value of 13 percent. Estimate challenged by: R-



# Lao People's Democratic Republic - MCV1

LAO - MCV1



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	59	64	67	69	78	81	81	81	86	86	83	79
Estimate GoC	●●●	●	●	●	●	●	●	●	●	●	●	●
Official	59	NA	NA	72	82	87	99	87	92	92	89	85
Administrative	59	64	69	72	82	87	99	87	92	92	89	85
Survey	NA	64	NA	NA	NA	81	NA	66	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

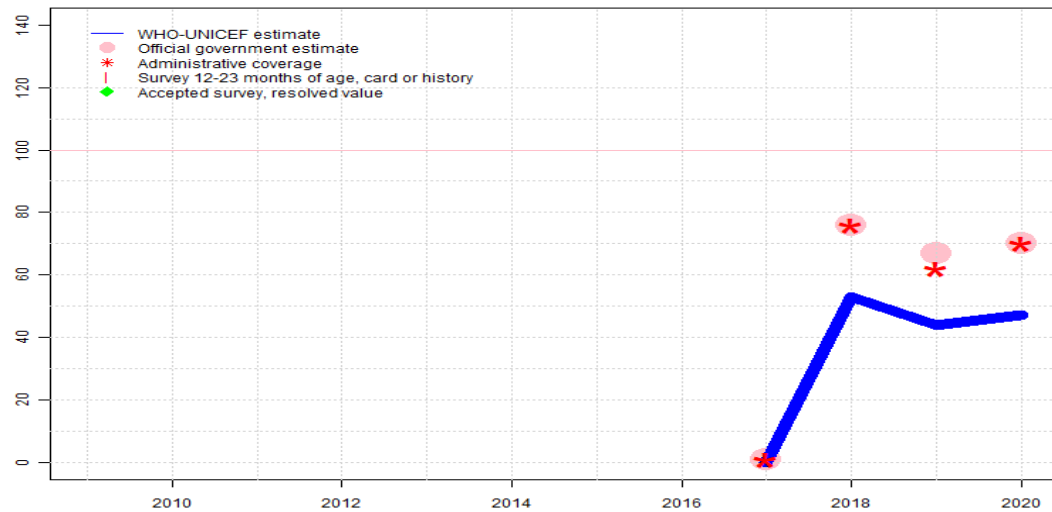
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2020: Reported data calibrated to 2016 levels. Estimate challenged by: R-
- 2019: Reported data calibrated to 2016 levels. Estimate of 83 percent changed from previous revision value of 69 percent. Estimate challenged by: R-
- 2018: Reported data calibrated to 2016 levels. Estimate of 86 percent changed from previous revision value of 69 percent. Estimate challenged by: R-
- 2017: Reported data calibrated to 2016 levels. Estimate of 86 percent changed from previous revision value of 72 percent. Estimate challenged by: R-
- 2016: Estimate of 81 percent assigned by working group. Estimate based on survey results for 2014 cohort as reported number of vaccinated children is similar between 2014 and 2016. Lao Social Indicator Survey II (LSIS II) 2017 results ignored by working group. Survey results inconsistent with previous survey and across vaccine doses. Estimate of 81 percent changed from previous revision value of 66 percent. Estimate challenged by: R-
- 2015: Estimate based on interpolation between 2014 and 2016 levels. . Reported data excluded due to an increase from 87 percent to 99 percent with decrease 87 percent. Reported denominator decline between 2014 and 2015 may explain observed increase in reported coverage. Estimate of 81 percent changed from previous revision value of 83 percent. Estimate challenged by: D-R-
- 2014: Estimate of 81 percent assigned by working group. Estimate based on survey results. Estimate of 81 percent changed from previous revision value of 87 percent. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2010 and 2014 levels. Estimate of 78 percent changed from previous revision value of 82 percent. Estimate challenged by: D-R-
- 2012: Reported data calibrated to 2010 and 2014 levels. Estimate of 69 percent changed from previous revision value of 72 percent. Estimate challenged by: R-S-
- 2011: Reported data calibrated to 2010 and 2014 levels. Estimate of 67 percent changed from previous revision value of 69 percent. Estimate challenged by: R-
- 2010: Estimate based on administrative data reported by national government supported by survey. Survey evidence of 64 percent based on 1 survey(s). Estimate challenged by: D-
- 2009: Estimate based on coverage reported by national government. GoC=R+ S+ D+

# Lao People's Democratic Republic - MCV2

LAO - MCV2



## Description:

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

- 2020: Reported data calibrated to 2018 levels. Estimate challenged by: D-R-
- 2019: Reported data calibrated to 2018 levels. Estimate of 44 percent changed from previous revision value of 57 percent. Estimate challenged by: D-R-
- 2018: Estimate of 53 percent assigned by working group. Estimate based on difference in reported numerator between MCV1 and MCV2 applied to WUENIC estimated coverage. Estimate of 53 percent changed from previous revision value of 57 percent. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2018 levels. Second dose of measles-containing vaccine introduced in November 2017 and reported coverage is less than 1 percent. Estimate challenged by: D-R-

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	0	53	44	47
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	1	76	67	70
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	1	76	62	70
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

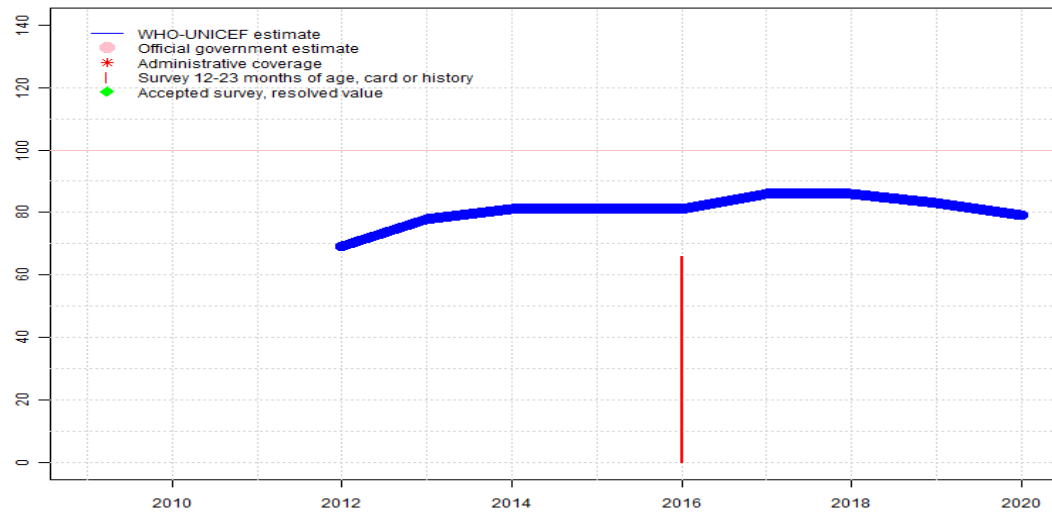
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

# Lao People's Democratic Republic - RCV1

LAO - RCV1



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	NA	NA	NA	69	78	81	81	81	86	86	83	79
Estimate GoC	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	66	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

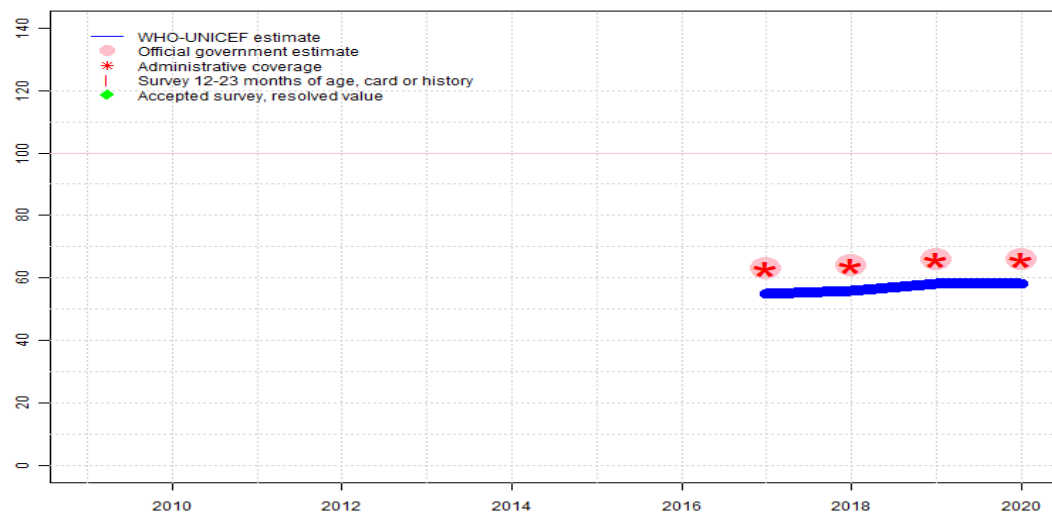
## Description:

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

- 2020: Estimate based on estimated MCV1. Estimate challenged by: R-
- 2019: Estimate based on estimated MCV1. Estimate of 83 percent changed from previous revision value of 69 percent. Estimate challenged by: R-
- 2018: Estimate based on estimated MCV1. Estimate of 86 percent changed from previous revision value of 69 percent. Estimate challenged by: R-
- 2017: Estimate based on estimated MCV1. Estimate of 86 percent changed from previous revision value of 72 percent. Estimate challenged by: R-
- 2016: Estimate based on estimated MCV1. Lao Social Indicator Survey II (LSIS II) 2017 results ignored by working group. Survey results inconsistent with previous survey and across vaccine doses. Estimate of 81 percent changed from previous revision value of 66 percent. Estimate challenged by: R-
- 2015: Estimate based on estimated MCV1. Reported denominator decline between 2014 and 2015 may explain observed increase in reported coverage. Estimate of 81 percent changed from previous revision value of 83 percent. Estimate challenged by: D-R-
- 2014: Estimate based on estimated MCV1. Estimate of 81 percent changed from previous revision value of 87 percent. Estimate challenged by: D-R-
- 2013: Estimate based on estimated MCV1. Estimate of 78 percent changed from previous revision value of 82 percent. Estimate challenged by: D-R-
- 2012: Estimate based on estimated MCV1. Estimate of 69 percent changed from previous revision value of 72 percent. Estimate challenged by: R-S-

# Lao People's Democratic Republic - HepBB

LAO - HepBB



## Description:

2020: Reported data calibrated to 2017 levels. Estimate challenged by: R-  
 2019: Reported data calibrated to 2017 levels. Estimate of 58 percent changed from previous revision value of 55 percent. Estimate challenged by: R-  
 2018: Reported data calibrated to 2017 levels. Estimate of 56 percent changed from previous revision value of 55 percent. Estimate challenged by: R-  
 2017: Estimate of 55 percent assigned by working group. Estimate based on the difference with BCG reported coverage applied to the BCG estimated coverage. HepB birth dose introduced in 2004, reporting for vaccination within 24 hours of birth started in 2017. Estimate may underestimate coverage as only 5 out of 18 provinces are reporting vaccination within 24 hours of birth. Estimate challenged by: R-

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	55	56	58	58
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	63	64	66	66
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	63	64	66	66
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

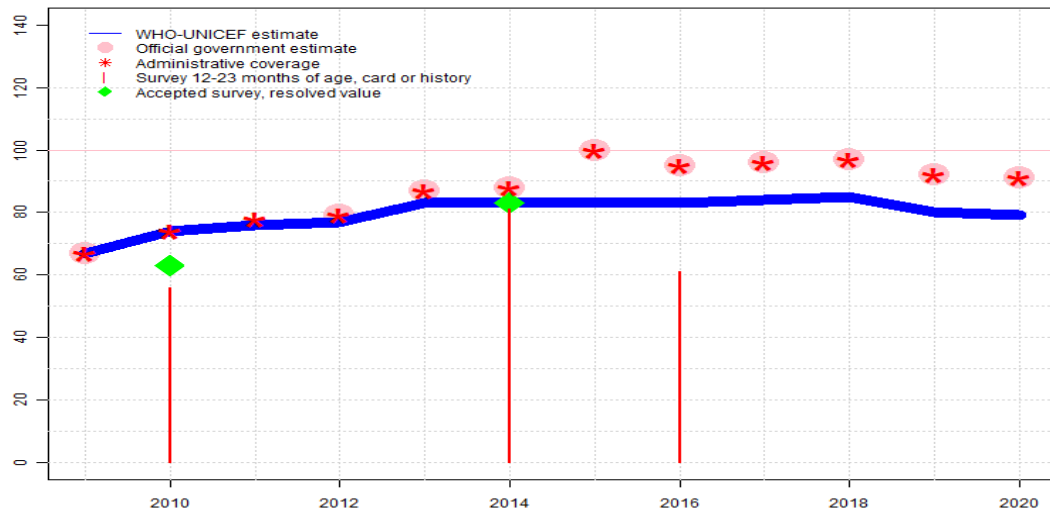
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

# Lao People's Democratic Republic - HepB3

LAO - HepB3



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	67	74	76	77	83	83	83	83	84	85	80	79
Estimate GoC	●●●	●	●	●	●	●	●	●	●	●	●	●
Official	67	NA	NA	79	87	88	100	95	96	97	92	91
Administrative	67	74	78	79	87	88	100	95	96	97	92	91
Survey	NA	56	NA	NA	NA	81	NA	61	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

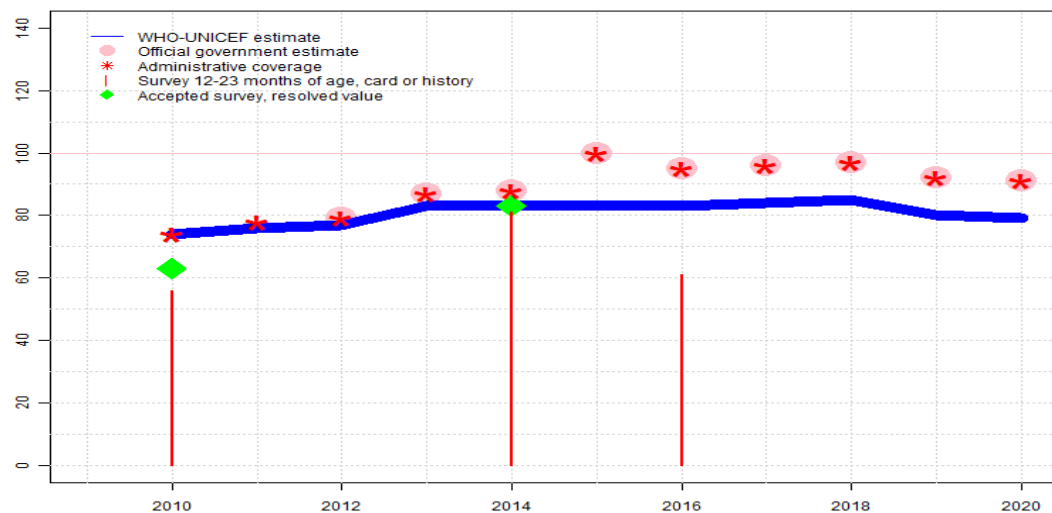
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2020: Reported data calibrated to 2016 levels. Estimate challenged by: R-
- 2019: Reported data calibrated to 2016 levels. Estimate of 80 percent changed from previous revision value of 68 percent. Estimate challenged by: R-
- 2018: Reported data calibrated to 2016 levels. Estimate of 85 percent changed from previous revision value of 68 percent. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2016 levels. Estimate of 84 percent changed from previous revision value of 69 percent. Estimate challenged by: D-R-
- 2016: Estimate of 83 percent assigned by working group. Estimate based on survey results for 2014 cohort as reported number of vaccinated children is similar between 2014 and 2016. Lao Social Indicator Survey II (LSIS II) 2017 results ignored by working group. Survey results inconsistent with previous survey and across vaccine doses. Lao Social Indicator Survey II (LSIS II) 2017 card or history results of 61 percent modified for recall bias to 66 percent based on 1st dose card or history coverage of 72 percent, 1st dose card only coverage of 47 percent and 3rd dose card only coverage of 43 percent. Estimate of 83 percent changed from previous revision value of 66 percent. Estimate challenged by: D-R-
- 2015: Estimate based on interpolation between 2014 and 2016 levels. . Reported denominator decline between 2014 and 2015 may explain observed increase in reported coverage. Estimate of 83 percent changed from previous revision value of 81 percent. Estimate challenged by: D-R-
- 2014: Estimate of 83 percent assigned by working group. Estimate based on survey results. National Immunization Survey 2015, Lao People's Democratic Republic (Lao PDR) card or history results of 81 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 73 percent and 3rd dose card only coverage of 69 percent. Estimate of 83 percent changed from previous revision value of 88 percent. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2010 and 2014 levels. Estimate of 83 percent changed from previous revision value of 87 percent. Estimate challenged by: D-R-
- 2012: Reported data calibrated to 2010 and 2014 levels. Estimate of 77 percent changed from previous revision value of 79 percent. Estimate challenged by: R-S-
- 2011: Reported data calibrated to 2010 and 2014 levels. Estimate of 76 percent changed from previous revision value of 78 percent. Estimate challenged by: R-S-
- 2010: Estimate is based on reported coverage supported by survey. Lao Social Indicator Survey (LSIS) 2011 - 12 (Multiple Indicator Cluster Survey / Demographic and Health Survey) card or history results of 56 percent modified for recall bias to 63 percent based on 1st dose card or history coverage of 77 percent, 1st dose card only coverage of 45 percent and 3rd dose card only coverage of 37 percent. Estimate challenged by: D-S-
- 2009: Estimate based on reported data. GoC=R+ S+ D+

# Lao People's Democratic Republic - Hib3

LAO - Hib3



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	NA	74	76	77	83	83	83	83	84	85	80	79
Estimate GoC	NA	•	•	•	•	•	•	•	•	•	•	•
Official	NA	NA	NA	79	87	88	100	95	96	97	92	91
Administrative	NA	74	78	79	87	88	100	95	96	97	92	91
Survey	NA	56	NA	NA	NA	81	NA	61	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

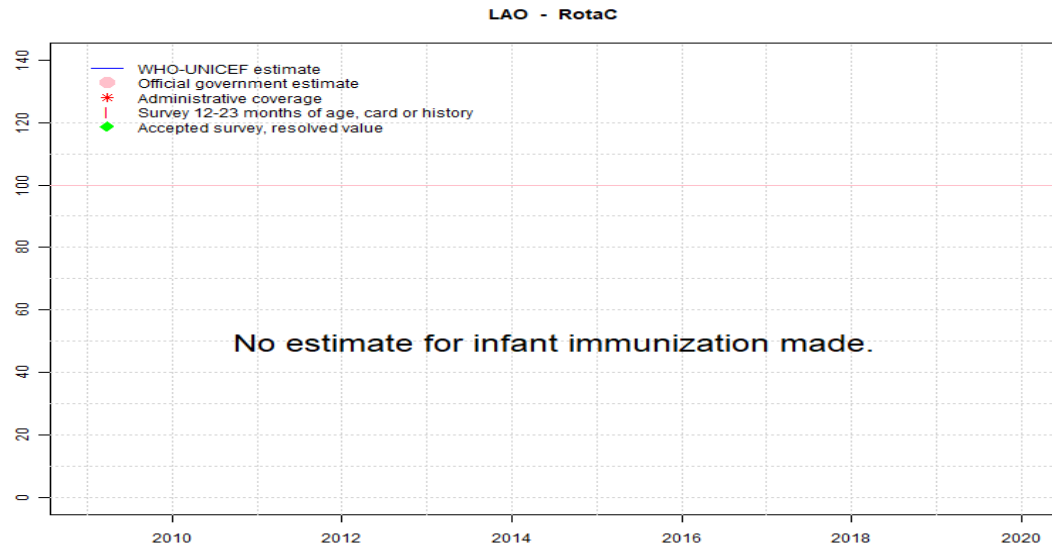
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

- 2020: Reported data calibrated to 2016 levels. Estimate challenged by: R-
- 2019: Reported data calibrated to 2016 levels. Estimate of 80 percent changed from previous revision value of 68 percent. Estimate challenged by: R-
- 2018: Reported data calibrated to 2016 levels. Estimate of 85 percent changed from previous revision value of 68 percent. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2016 levels. Estimate of 84 percent changed from previous revision value of 69 percent. Estimate challenged by: D-R-
- 2016: Estimate of 83 percent assigned by working group. Estimate based on survey results for 2014 cohort as reported number of vaccinated children is similar between 2014 and 2016. Lao Social Indicator Survey II (LSIS II) 2017 results ignored by working group. Survey results inconsistent with previous survey and across vaccine doses. Lao Social Indicator Survey II (LSIS II) 2017 card or history results of 61 percent modified for recall bias to 66 percent based on 1st dose card or history coverage of 72 percent, 1st dose card only coverage of 47 percent and 3rd dose card only coverage of 43 percent. Estimate of 83 percent changed from previous revision value of 66 percent. Estimate challenged by: D-R-
- 2015: Estimate based on interpolation between 2014 and 2016 levels. . Reported denominator decline between 2014 and 2015 may explain observed increase in reported coverage. Estimate of 83 percent changed from previous revision value of 81 percent. Estimate challenged by: D-R-
- 2014: Estimate of 83 percent assigned by working group. Estimate based on survey results. National Immunization Survey 2015, Lao People's Democratic Republic (Lao PDR) card or history results of 81 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 73 percent and 3rd dose card only coverage of 69 percent. Estimate of 83 percent changed from previous revision value of 88 percent. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2010 and 2014 levels. Estimate of 83 percent changed from previous revision value of 87 percent. Estimate challenged by: D-R-
- 2012: Reported data calibrated to 2010 and 2014 levels. Estimate of 77 percent changed from previous revision value of 79 percent. Estimate challenged by: R-S-
- 2011: Reported data calibrated to 2010 and 2014 levels. Estimate of 76 percent changed from previous revision value of 78 percent. Estimate challenged by: R-S-
- 2010: Estimate is based on reported coverage supported by survey. Lao Social Indicator Survey (LSIS) 2011 - 12 (Multiple Indicator Cluster Survey / Demographic and Health Survey) card or history results of 56 percent modified for recall bias to 63 percent based on 1st dose card or history coverage of 77 percent, 1st dose card only coverage of 45 percent and 3rd dose card only coverage of 37 percent. DTP-HepB-Hib vaccine was introduced in 2009. Reporting started in 2010. Estimate challenged by: D-S-

# Lao People's Democratic Republic - RotaC



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

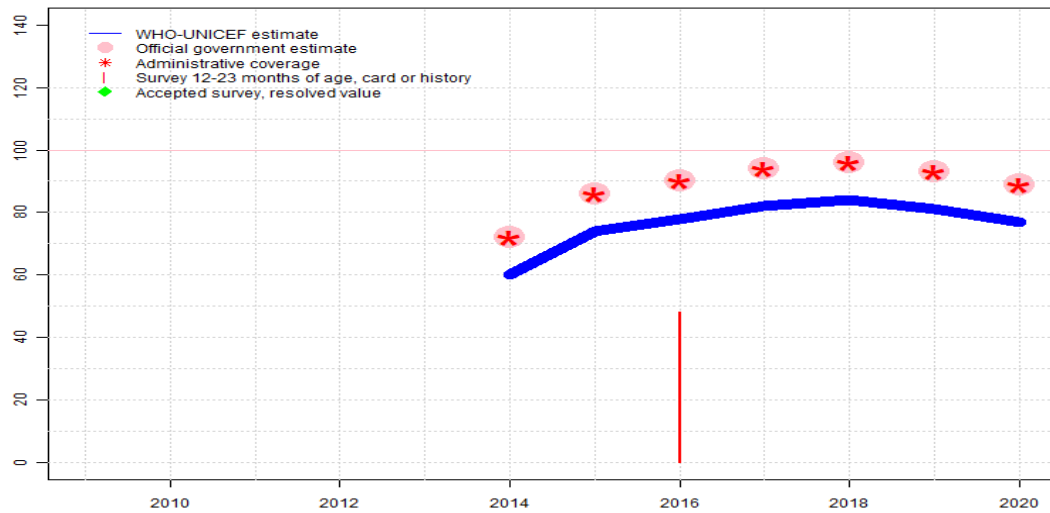
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

# Lao People's Democratic Republic - PcV3

LAO - PcV3



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	NA	NA	NA	NA	NA	60	74	78	82	84	81	77
Estimate GoC	NA	NA	NA	NA	NA	•	•	•	•	•	•	•
Official	NA	NA	NA	NA	NA	72	86	90	94	96	93	89
Administrative	NA	NA	NA	NA	NA	72	86	90	94	96	93	89
Survey	NA	NA	NA	NA	NA	NA	NA	48	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

- 2020: Reported data calibrated to 2016 levels. Estimate challenged by: R-
- 2019: Reported data calibrated to 2016 levels. Estimate of 81 percent changed from previous revision value of 56 percent. Estimate challenged by: R-
- 2018: Reported data calibrated to 2016 levels. Estimate of 84 percent changed from previous revision value of 56 percent. Estimate challenged by: D-R-
- 2017: Reported data calibrated to 2016 levels. Estimate of 82 percent changed from previous revision value of 56 percent. Estimate challenged by: D-R-
- 2016: Estimate of 78 percent assigned by working group. Estimate based on difference in reported numerator between DTP3 and PCV3 applied to WUENIC estimated coverage. Lao Social Indicator Survey II (LSIS II) 2017 results ignored by working group. Survey results inconsistent with previous survey and across vaccine doses. Lao Social Indicator Survey II (LSIS II) 2017 card or history results of 48 percent modified for recall bias to 51 percent based on 1st dose card or history coverage of 57 percent, 1st dose card only coverage of 40 percent and 3rd dose card only coverage of 36 percent. Estimate of 78 percent changed from previous revision value of 51 percent. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2016 levels. Reported denominator decline between 2014 and 2015 may explain observed increase in reported coverage. Estimate of 74 percent changed from previous revision value of 50 percent. Estimate challenged by: D-R-
- 2014: Reported data calibrated to 2016 levels. Pneumococcal conjugate vaccine introduced during 2013 and reporting began in 2014. Estimate of 60 percent changed from previous revision value of 45 percent. Estimate challenged by: D-R-



# Lao People's Democratic Republic - survey details

## 2016 Lao Social Indicator Survey II (LSIS II) 2017

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	81.5	12-23 m	2203	53
BCG	Card	50.5	12-23 m	2203	53
BCG	Card or History	81.5	12-23 m	2203	53
BCG	History	31	12-23 m	2203	53
DTP1	C or H <12 months	71.8	12-23 m	2203	53
DTP1	Card	47.4	12-23 m	2203	53
DTP1	Card or History	72.5	12-23 m	2203	53
DTP1	History	25.1	12-23 m	2203	53
DTP3	C or H <12 months	58.8	12-23 m	2203	53
DTP3	Card	43.1	12-23 m	2203	53
DTP3	Card or History	60.8	12-23 m	2203	53
DTP3	History	17.7	12-23 m	2203	53
HepB1	C or H <12 months	71.8	12-23 m	2203	53
HepB1	Card	47.4	12-23 m	2203	53
HepB1	Card or History	72.5	12-23 m	2203	53
HepB1	History	25.1	12-23 m	2203	53
HepB3	C or H <12 months	58.8	12-23 m	2203	53
HepB3	Card	43.1	12-23 m	2203	53
HepB3	Card or History	60.8	12-23 m	2203	53
HepB3	History	17.7	12-23 m	2203	53
Hib1	C or H <12 months	71.8	12-23 m	2203	53
Hib1	Card	47.4	12-23 m	2203	53
Hib1	Card or History	72.5	12-23 m	2203	53
Hib1	History	25.1	12-23 m	2203	53
Hib3	C or H <12 months	58.8	12-23 m	2203	53
Hib3	Card	43.1	12-23 m	2203	53
Hib3	Card or History	60.8	12-23 m	2203	53
Hib3	History	17.7	12-23 m	2203	53
IPV1	C or H <12 months	48.3	12-23 m	2203	53
IPV1	Card	31.4	12-23 m	2203	53
IPV1	Card or History	50.9	12-23 m	2203	53
IPV1	History	19.5	12-23 m	2203	53
MCV1	C or H <12 months	59.7	12-23 m	2203	53
MCV1	Card	39.7	12-23 m	2203	53
MCV1	Card or History	66	12-23 m	2203	53
MCV1	History	26.3	12-23 m	2203	53
PcV1	C or H <12 months	56.4	12-23 m	2203	53

PcV1	Card	39.9	12-23 m	2203	53
PcV1	Card or History	56.9	12-23 m	2203	53
PcV1	History	17.1	12-23 m	2203	53
PcV3	C or H <12 months	46	12-23 m	2203	53
PcV3	Card	36.3	12-23 m	2203	53
PcV3	Card or History	47.6	12-23 m	2203	53
PcV3	History	11.3	12-23 m	2203	53
Pol1	C or H <12 months	83.1	12-23 m	2203	53
Pol1	Card	50.9	12-23 m	2203	53
Pol1	Card or History	83.8	12-23 m	2203	53
Pol1	History	32.9	12-23 m	2203	53
Pol3	C or H <12 months	67.3	12-23 m	2203	53
Pol3	Card	45.6	12-23 m	2203	53
Pol3	Card or History	69	12-23 m	2203	53
Pol3	History	23.5	12-23 m	2203	53

## 2014 National Immunization Survey 2015, Lao People's Democratic Republic (Lao PDR)

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	72	12-23 m	5981	64
BCG	Card <12 months	67.2	12-23 m	-	64
BCG	Card or History	88.8	12-23 m	5981	64
DTP1	Card	73.3	12-23 m	5981	64
DTP1	Card <12 months	69.2	12-23 m	-	64
DTP1	Card or History	88	12-23 m	5981	64
DTP3	Card	69.1	12-23 m	5981	64
DTP3	Card <12 months	52.5	12-23 m	-	64
DTP3	Card or History	81.4	12-23 m	5981	64
HepB1	Card	73.3	12-23 m	5981	64
HepB1	Card <12 months	69.2	12-23 m	-	64
HepB1	Card or History	88	12-23 m	5981	64
HepB3	Card	69.1	12-23 m	5981	64
HepB3	Card <12 months	52.5	12-23 m	-	64
HepB3	Card or History	81.4	12-23 m	5981	64
Hib1	Card	73.3	12-23 m	5981	64
Hib1	Card <12 months	69.2	12-23 m	-	64
Hib1	Card or History	88	12-23 m	5981	64
Hib3	Card	69.1	12-23 m	5981	64

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Hib3	Card <12 months	52.5	12-23 m	-	64
Hib3	Card or History	81.4	12-23 m	5981	64
MCV1	Card	65.6	12-23 m	5981	64
MCV1	Card <12 months	48.6	12-23 m	-	64
MCV1	Card or History	81.4	12-23 m	5981	64
Pol1	Card	73.2	12-23 m	5981	64
Pol1	Card <12 months	69.4	12-23 m	-	64
Pol1	Card or History	88.5	12-23 m	5981	64
Pol3	Card	69.2	12-23 m	5981	64
Pol3	Card <12 months	53	12-23 m	-	64
Pol3	Card or History	82.1	12-23 m	5981	64

## 2010 Lao Social Indicator Survey (LSIS) 2011 - 12 (Multiple Indicator Cluster Survey / Demographic and Health Survey)

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	77.1	12-23 m	2141	47
BCG	Card	44.7	12-23 m	-	47
BCG	Card or History	78.3	12-23 m	2141	47
BCG	History	33.6	12-23 m	-	47
DTP1	C or H <12 months	75.1	12-23 m	2141	47
DTP1	Card	44.6	12-23 m	-	47
DTP1	Card or History	76.8	12-23 m	2141	47
DTP1	History	32.2	12-23 m	-	47
DTP3	C or H <12 months	51.5	12-23 m	2141	47
DTP3	Card	36.8	12-23 m	-	47
DTP3	Card or History	55.5	12-23 m	2141	47
DTP3	History	18.6	12-23 m	-	47
HepB1	C or H <12 months	75.1	12-23 m	2141	47
HepB1	Card	44.6	12-23 m	-	47
HepB1	Card or History	76.8	12-23 m	2141	47
HepB1	History	32.2	12-23 m	-	47
HepB3	C or H <12 months	51.5	12-23 m	2141	47
HepB3	Card	36.8	12-23 m	-	47
HepB3	Card or History	55.5	12-23 m	2141	47
HepB3	History	18.6	12-23 m	-	47
Hib1	C or H <12 months	75.1	12-23 m	2141	47
Hib1	Card	44.6	12-23 m	-	47
Hib1	Card or History	76.8	12-23 m	2141	47

Hib1	History	32.2	12-23 m	-	47
Hib3	C or H <12 months	51.5	12-23 m	2141	47
Hib3	Card	36.8	12-23 m	-	47
Hib3	Card or History	55.5	12-23 m	2141	47
Hib3	History	18.6	12-23 m	-	47
MCV1	C or H <12 months	55.3	12-23 m	2141	47
MCV1	Card	34	12-23 m	-	47
MCV1	Card or History	63.7	12-23 m	2141	47
MCV1	History	29.7	12-23 m	-	47
Pol1	C or H <12 months	76.5	12-23 m	2141	47
Pol1	Card	44.3	12-23 m	-	47
Pol1	Card or History	78.3	12-23 m	2141	47
Pol1	History	34	12-23 m	-	47
Pol3	C or H <12 months	49.1	12-23 m	2141	47
Pol3	Card	37	12-23 m	-	47
Pol3	Card or History	52.6	12-23 m	2141	47
Pol3	History	15.6	12-23 m	-	47

## 2005 Lao PDR Multiple Indicator Cluster Survey 2006 Final Report

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	61	12-23 m	828	49
BCG	Card	47.3	12-23 m	828	49
BCG	Card or History	63.7	12-23 m	828	49
BCG	History	16.4	12-23 m	828	49
DTP1	C or H <12 months	60.1	12-23 m	828	49
DTP1	Card	48	12-23 m	828	49
DTP1	Card or History	64.1	12-23 m	828	49
DTP1	History	16.1	12-23 m	828	49
DTP3	C or H <12 months	31.8	12-23 m	828	49
DTP3	Card	33.5	12-23 m	828	49
DTP3	Card or History	41.3	12-23 m	828	49
DTP3	History	7.8	12-23 m	828	49
MCV1	C or H <12 months	33	12-23 m	828	49
MCV1	Card	25.3	12-23 m	828	49
MCV1	Card or History	40.2	12-23 m	828	49
MCV1	History	15	12-23 m	828	49
Pol1	C or H <12 months	63	12-23 m	828	49
Pol1	Card	48.1	12-23 m	828	49

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Pol1	Card or History	66.8	12-23 m	828	49
Pol1	History	18.7	12-23 m	828	49
Pol3	C or H <12 months	32.2	12-23 m	828	49
Pol3	Card	34.4	12-23 m	828	49
Pol3	Card or History	42.3	12-23 m	828	49
Pol3	History	7.9	12-23 m	828	49

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	69.3	12-23 m	398	44
DTP1	Card	83.2	12-23 m	398	44
DTP3	Card	52.8	12-23 m	398	44
MCV1	Card	41.8	12-23 m	398	44
Pol1	Card	81.2	12-23 m	398	44
Pol3	Card	57.1	12-23 m	398	44

1999 Lao PDR Multiple Indicator Cluster Survey MICS-II 2000, 2001

Further information and estimates for previous years are available at:

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

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