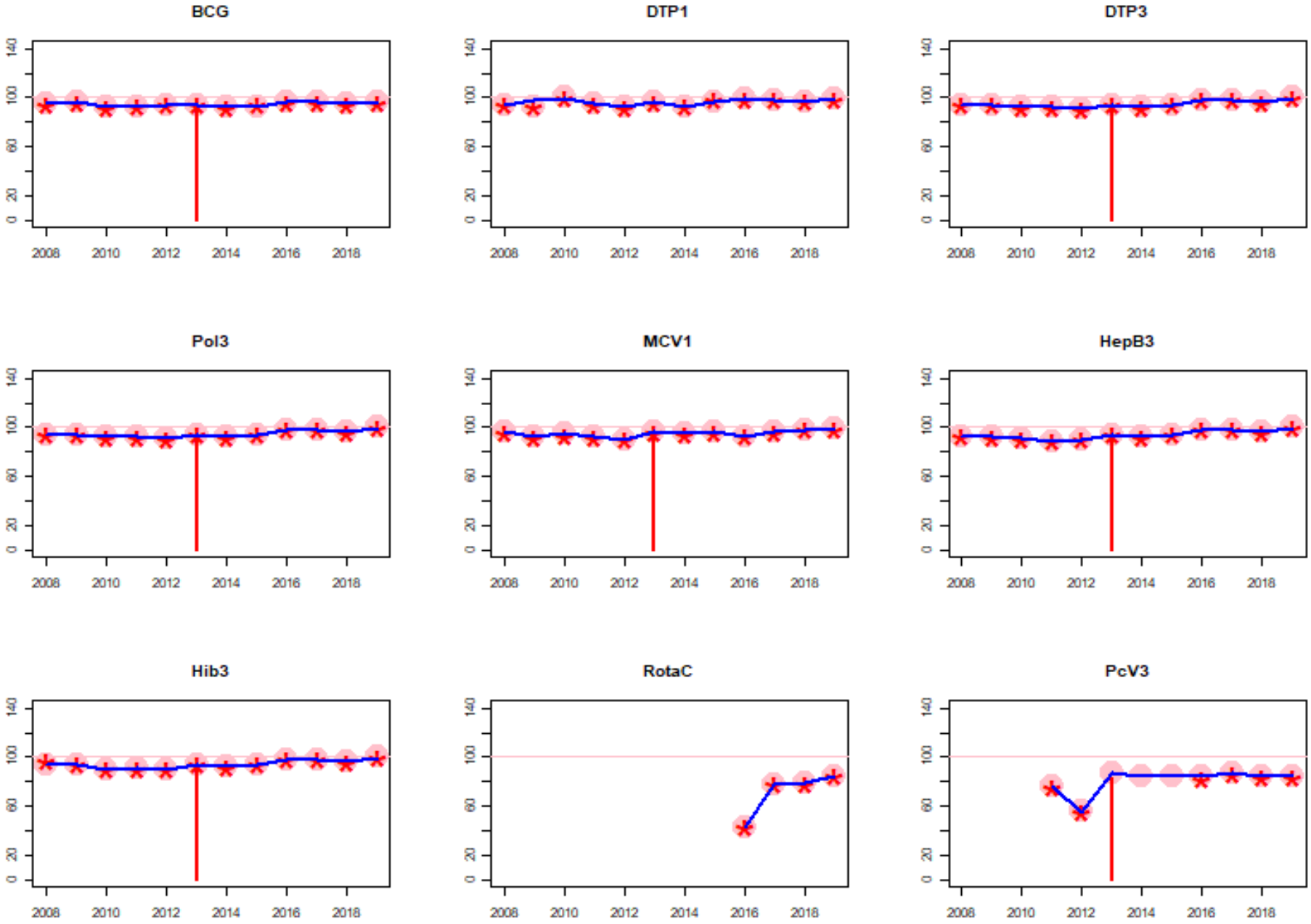

BCG
DTP1
DTP3
Pol3
MCV1
HepB3
Hib3
RotaC
PcV3
0
20
60
100
140
2008
2010
2012
2014
2016
2018

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

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

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

DATA SOURCES.

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

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

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

ABBREVIATIONS

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

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

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

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

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

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

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

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

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

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

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

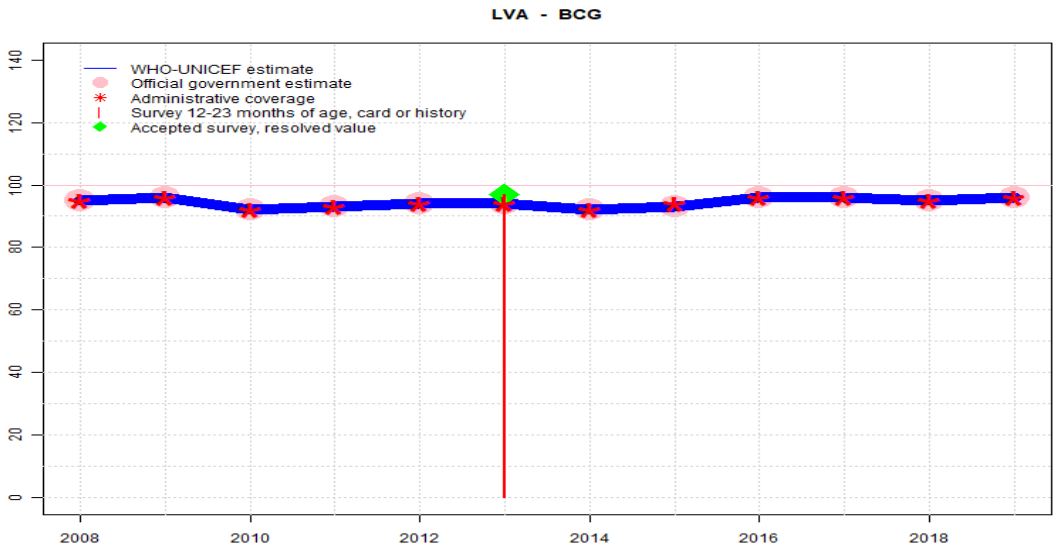
RotaC: percentage of surviving infants who received the final recommended dose of rotavirus vaccine, which can be either the 2nd or the 3rd dose depending on the vaccine.

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

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

Disclaimer: All reasonable precautions have been taken by the World Health Organization and United Nations Children's Fund to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization or United Nations Children's Fund be liable for damages arising from its use.

Latvia - BCG



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	95	96	92	93	94	94	92	93	96	96	95	96
Estimate GoC	••	••	••	•	•••	•••	•••	•••	••	••	••	••
Official	95	96	92	93	94	94	92	93	96	96	95	96
Administrative	95	96	92	93	94	94	92	94	96	96	95	96
Survey	NA	NA	NA	NA	NA	97	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: 2019 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.

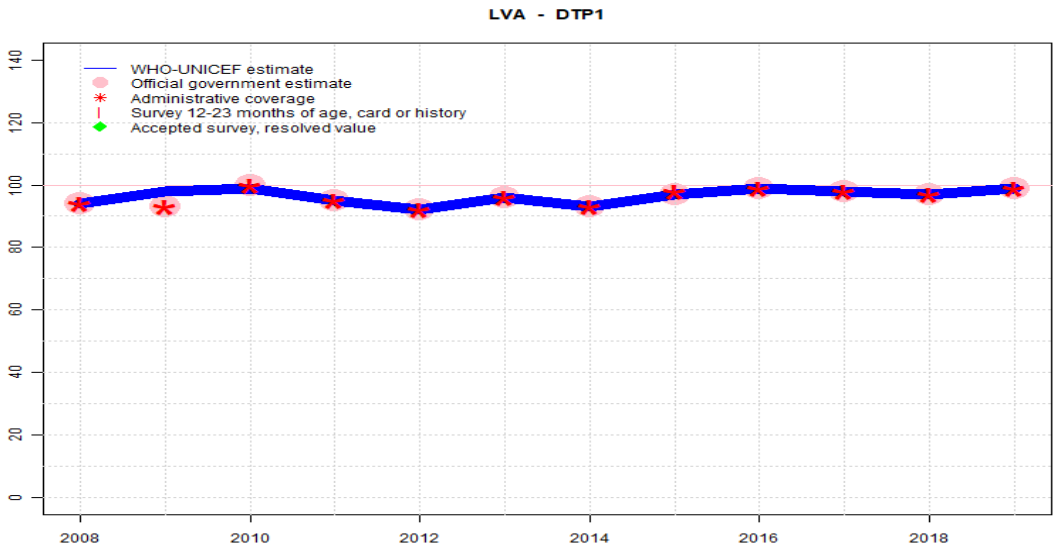
• There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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:

2019: Estimate based on coverage reported by national government. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+
2018: Estimate based on coverage reported by national government. GoC=R+ D+
2017: Estimate based on coverage reported by national government. GoC=R+ D+
2016: Estimate based on coverage reported by national government. GoC=R+ D+
2015: Estimate based on coverage reported by national government. Programme reports three month national level stock-out. GoC=R+ S+ D+
2014: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). GoC=R+ S+ D+
2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
2010: Estimate based on coverage reported by national government. GoC=R+ D+
2009: Estimate based on coverage reported by national government. GoC=R+ D+
2008: Estimate based on coverage reported by national government. GoC=R+ D+

Latvia - DTP1



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	94	98	99	95	92	96	93	97	99	98	97	99
Estimate GoC	••	•	••	•	••	••	••	••	••	••	••	•
Official	94	93	100	95	92	96	93	97	99	98	97	99
Administrative	94	93	100	95	92	96	93	98	99	98	97	99
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: 2019 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.

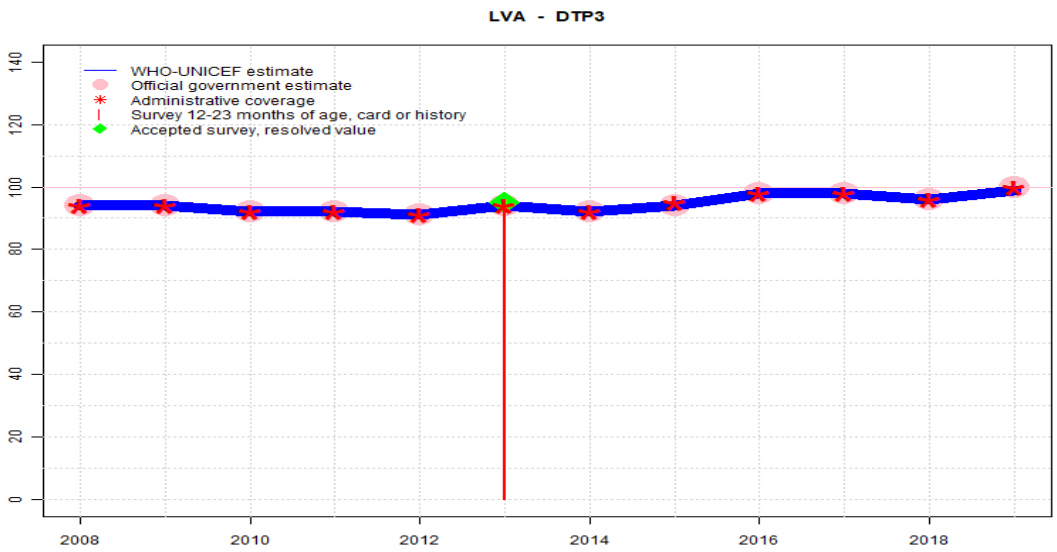
● There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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:

2019: DTP1 coverage estimated based on DTP3 coverage of 100. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. Programme reports one month vaccine stock-out. Estimate challenged by: R-
2018: Estimate based on coverage reported by national government. GoC=R+ D+
2017: Estimate based on coverage reported by national government. GoC=R+ D+
2016: Estimate based on coverage reported by national government. GoC=R+ D+
2015: Estimate based on coverage reported by national government. GoC=R+ D+
2014: Estimate based on coverage reported by national government. GoC=R+ D+
2013: Estimate based on coverage reported by national government. GoC=R+ D+
2012: Estimate based on coverage reported by national government. GoC=R+ D+
2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
2010: Estimate based on coverage reported by national government. GoC=R+ D+
2009: DTP1 coverage estimated based on DTP3 coverage of 94. Estimate challenged by: R-
2008: Estimate based on coverage reported by national government. GoC=R+ D+

Latvia - DTP3



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	94	94	92	92	91	94	92	94	98	98	96	99
Estimate GoC	••	••	••	•	•••	•••	•••	•••	••	••	••	••
Official	94	94	92	92	91	94	92	94	98	98	96	100
Administrative	94	94	92	92	91	94	92	95	98	98	96	100
Survey	NA	NA	NA	NA	NA	95	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: 2019 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.

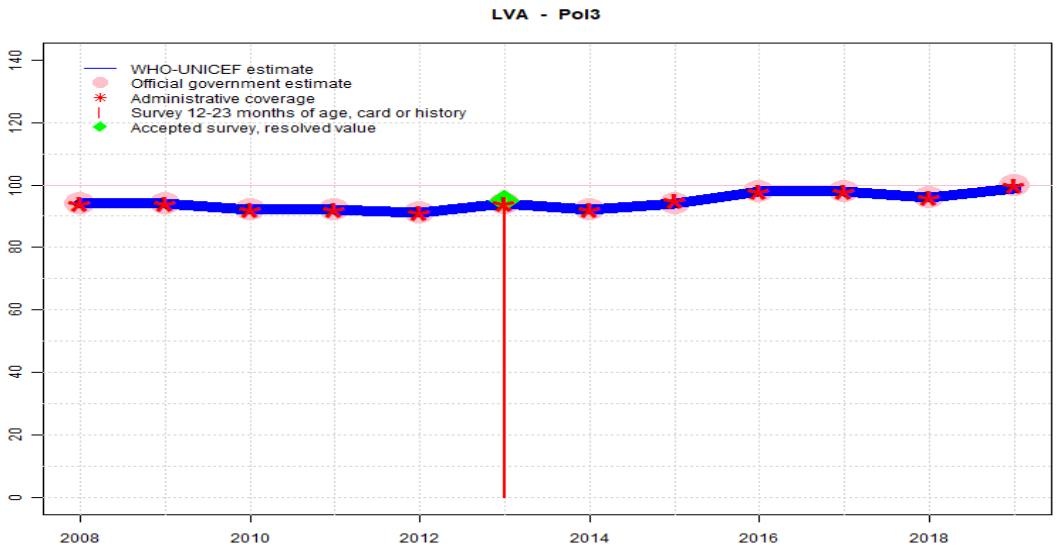
• There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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:

2019: Estimate based on coverage reported by national government. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. Programme reports one month vaccine stock-out due. GoC=R+ D+
2018: Estimate based on coverage reported by national government. GoC=R+ D+
2017: Estimate based on coverage reported by national government. GoC=R+ D+
2016: Estimate based on coverage reported by national government. GoC=R+ D+
2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2014: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). GoC=R+ S+ D+
2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
2010: Estimate based on coverage reported by national government. GoC=R+ D+
2009: Estimate based on coverage reported by national government. GoC=R+ D+
2008: Estimate based on coverage reported by national government. GoC=R+ D+

Latvia - Pol3



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	94	94	92	92	91	94	92	94	98	98	96	99
Estimate GoC	••	••	••	•	•••	•••	•••	•••	••	••	••	••
Official	94	94	92	92	91	94	92	94	98	98	96	100
Administrative	94	94	92	92	91	94	92	95	98	98	96	100
Survey	NA	NA	NA	NA	NA	95	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: 2019 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.

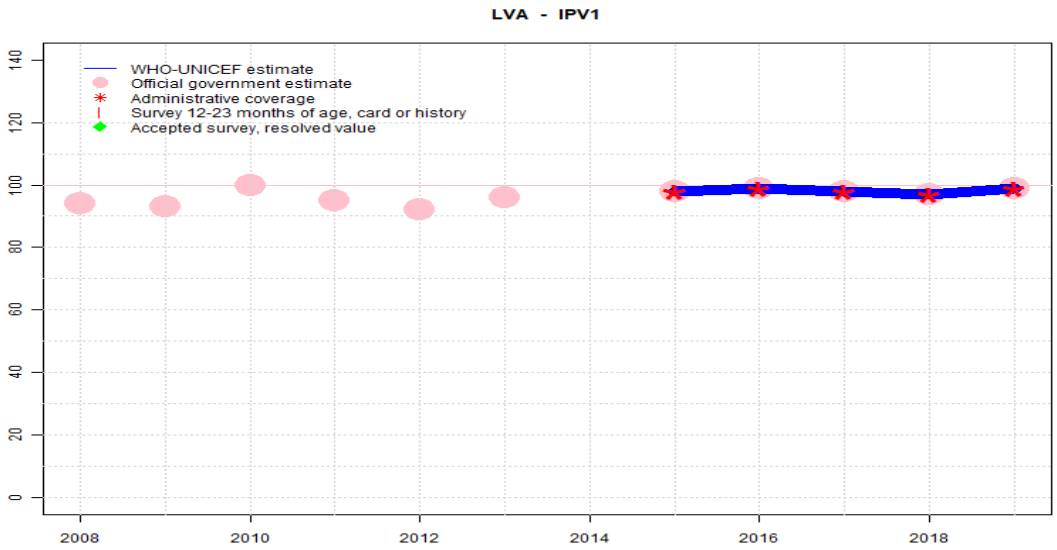
• There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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:

2019: Estimate based on coverage reported by national government. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+
2018: Estimate based on coverage reported by national government. GoC=R+ D+
2017: Estimate based on coverage reported by national government. GoC=R+ D+
2016: Estimate based on coverage reported by national government. GoC=R+ D+
2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2014: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). GoC=R+ S+ D+
2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
2010: Estimate based on coverage reported by national government. GoC=R+ D+
2009: Estimate based on coverage reported by national government. GoC=R+ D+
2008: Estimate based on coverage reported by national government. GoC=R+ D+

Latvia - IPV1



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	NA	NA	NA	NA	NA	NA	NA	98	99	98	97	99
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	●●	●●	●●	●●	●●
Official	94	93	100	95	92	96	NA	98	99	98	97	99
Administrative	NA	NA	NA	NA	NA	NA	NA	98	99	98	97	99
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: 2019 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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● There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

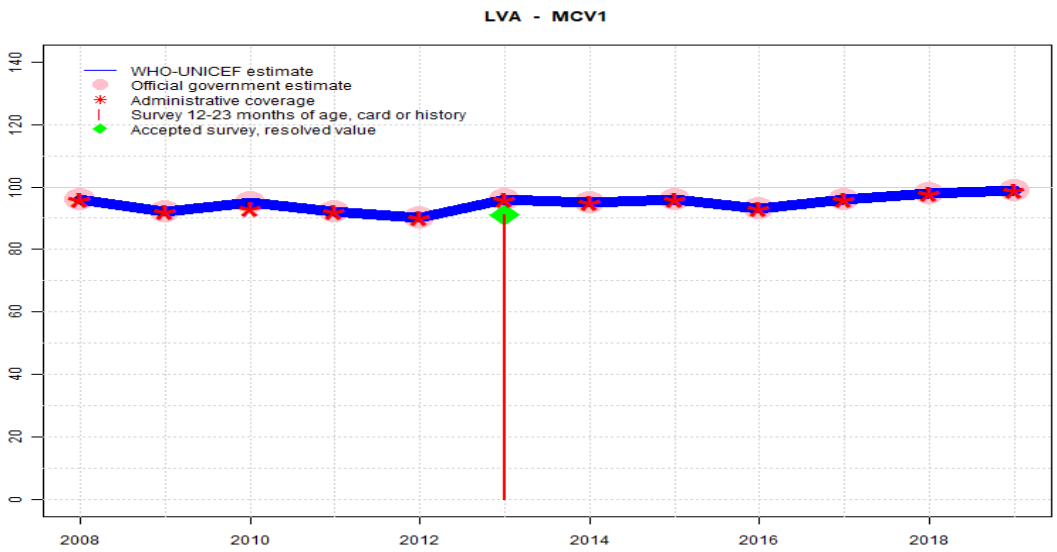
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

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).

2019: Estimate based on coverage reported by national government. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+
2018: Estimate based on coverage reported by national government. GoC=R+ D+
2017: Estimate based on coverage reported by national government. GoC=R+ D+
2016: Estimate based on coverage reported by national government. GoC=R+ D+
2015: Estimate based on coverage reported by national government. GoC=R+ D+

Latvia - MCV1



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	96	92	95	92	90	96	95	96	93	96	98	99
Estimate GoC	••	••	•	•••	•••	•••	•••	•••	••	••	••	••
Official	96	92	95	92	90	96	95	96	93	96	98	99
Administrative	96	92	93	92	90	96	95	96	93	96	98	99
Survey	NA	NA	NA	NA	NA	91	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: 2019 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.

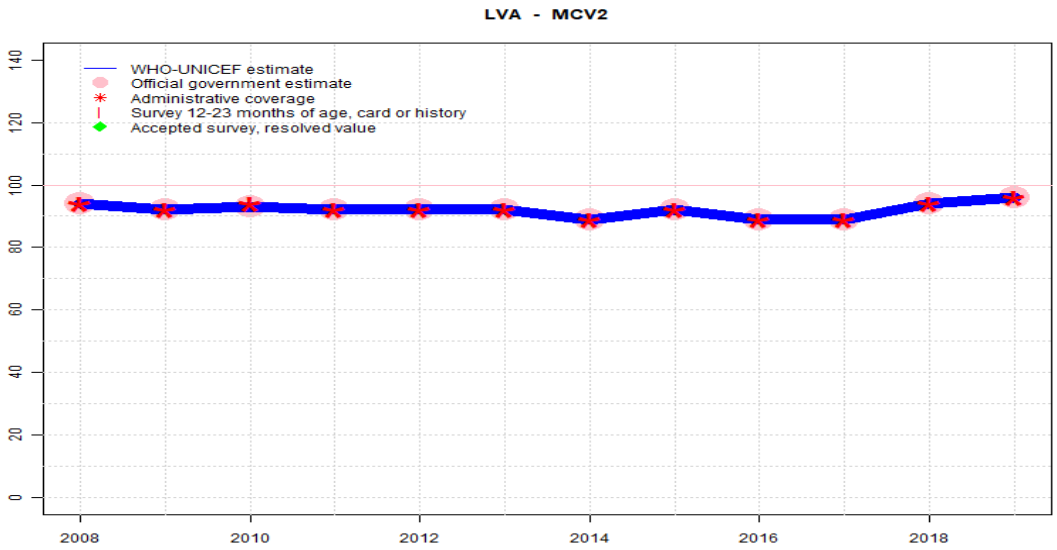
• There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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:

2019: Estimate based on coverage reported by national government. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+
2018: Estimate based on coverage reported by national government. Programme reports one month vaccine stock-out at national level. GoC=R+ D+
2017: Estimate based on coverage reported by national government. Programme reports 3 month vaccine stock-out at national level. GoC=R+ D+
2016: Estimate based on coverage reported by national government. GoC=R+ D+
2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2014: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 91 percent based on 1 survey(s). GoC=R+ S+ D+
2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
2009: Estimate based on coverage reported by national government. GoC=R+ D+
2008: Estimate based on coverage reported by national government. GoC=R+ D+

Latvia - MCV2



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	94	92	93	92	92	92	89	92	89	89	94	96
Estimate GoC	•	•	••	••	••	••	••	••	••	••	••	••
Official	94	92	93	92	92	92	89	92	89	89	94	96
Administrative	94	92	94	92	92	92	89	92	89	89	94	96
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: 2019 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:

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

2019: Estimate based on coverage reported by national government. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+

2018: Estimate based on coverage reported by national government. Programme reports one month vaccine stock-out at national level. GoC=R+ D+

2017: Estimate based on coverage reported by national government. Programme reports 3 month vaccine stock-out at national level. Six percentage point decline reported in number of doses administered for MCV2. GoC=R+ D+

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

2015: Estimate based on coverage reported by national government. GoC=R+ D+

2014: Estimate based on coverage reported by national government. GoC=R+ D+

2013: Estimate based on coverage reported by national government. GoC=R+ D+

2012: Estimate based on coverage reported by national government. GoC=R+ D+

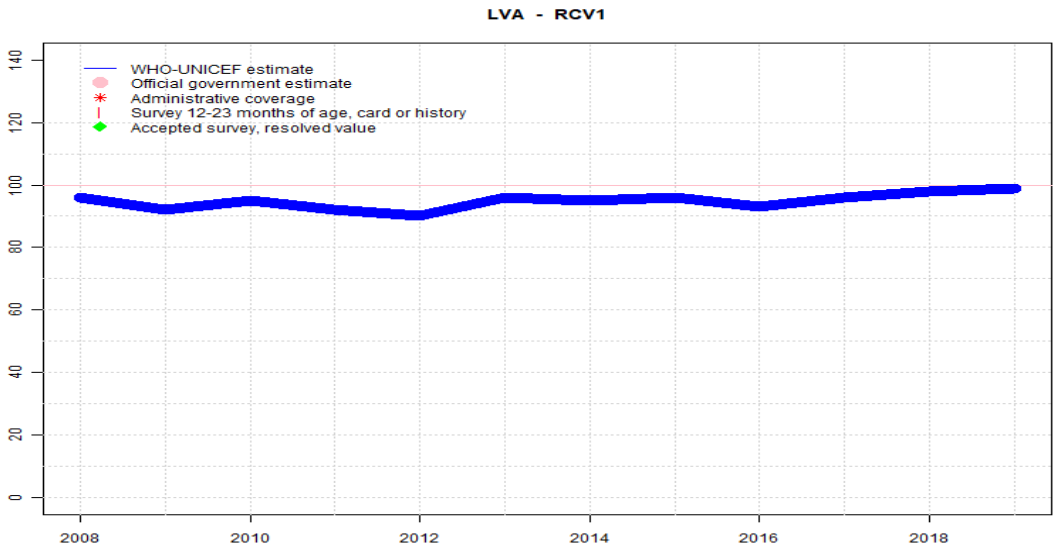
2011: Estimate based on coverage reported by national government. GoC=R+ D+

2010: Estimate based on coverage reported by national government. GoC=R+ D+

2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

2008: Estimate based on coverage reported by national government. Estimate challenged by: D-

Latvia - RCV1



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	96	92	95	92	90	96	95	96	93	96	98	99
Estimate GoC	●●	●●	●	●●●	●●●	●●●	●●●	●●●	●●	●●	●●	●●
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: 2019 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.

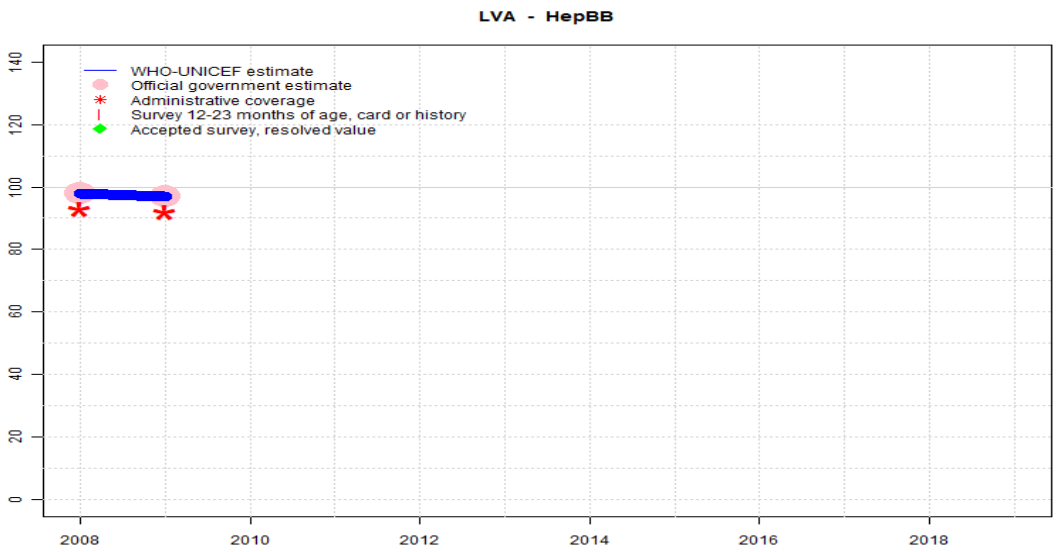
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

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.

2019: Estimate based on estimated MCV1. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+
2018: Estimate based on estimated MCV1. GoC=R+ D+
2017: Estimate based on estimated MCV1. Programme reports 3 month vaccine stock-out at national level. GoC=R+ D+
2016: Estimate based on estimated MCV1. GoC=R+ D+
2015: Estimate based on estimated MCV1. GoC=R+ S+ D+
2014: Estimate based on estimated MCV1. GoC=R+ S+ D+
2013: Estimate based on estimated MCV1. GoC=R+ S+ D+
2012: Estimate based on estimated MCV1. GoC=R+ S+ D+
2011: Estimate based on estimated MCV1. GoC=R+ S+ D+
2010: Estimate based on estimated MCV1. Estimate challenged by: D-
2009: Estimate based on estimated MCV1. GoC=R+ D+
2008: Estimate based on estimated MCV1. GoC=R+ D+

Latvia - HepBB



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	98	97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	●●	●●	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	98	97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	93	92	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: 2019 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.

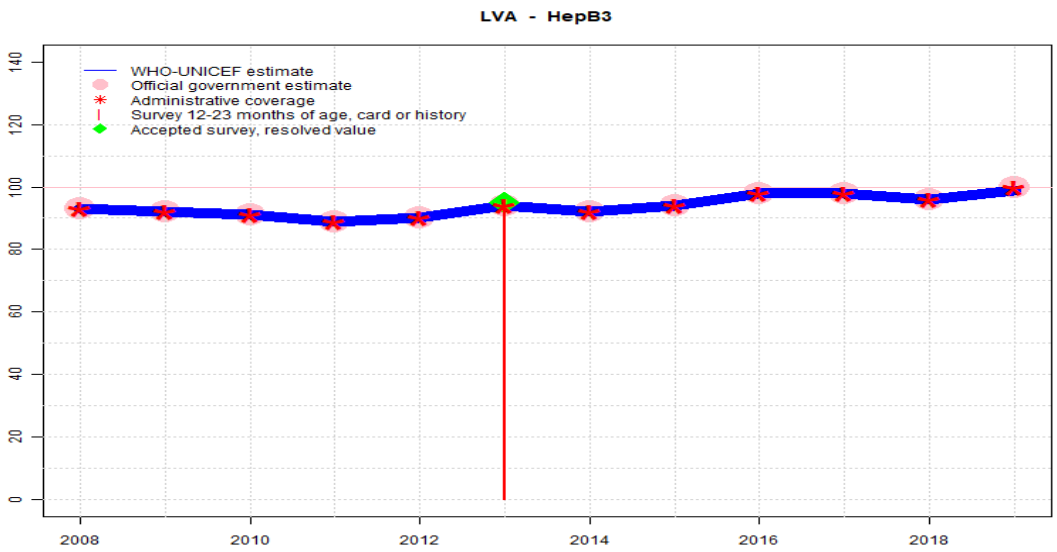
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

2009: Estimate based on coverage reported by national government. Pentavalent DTP-HepB-Hib combination vaccine introduced in 2011. Universal birth dose recommendation discontinued. Hepatitis B birth dose provided only to high risk infants. GoC=R+ D+

2008: Estimate based on coverage reported by national government. GoC=R+ D+

Latvia - HepB3



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	93	92	91	89	90	94	92	94	98	98	96	99
Estimate GoC	••	••	••	•••	•••	•••	•••	•••	••	••	••	••
Official	93	92	91	89	90	94	92	94	98	98	96	100
Administrative	93	92	91	89	90	94	92	94	98	98	96	100
Survey	NA	NA	NA	NA	NA	95	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: 2019 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.

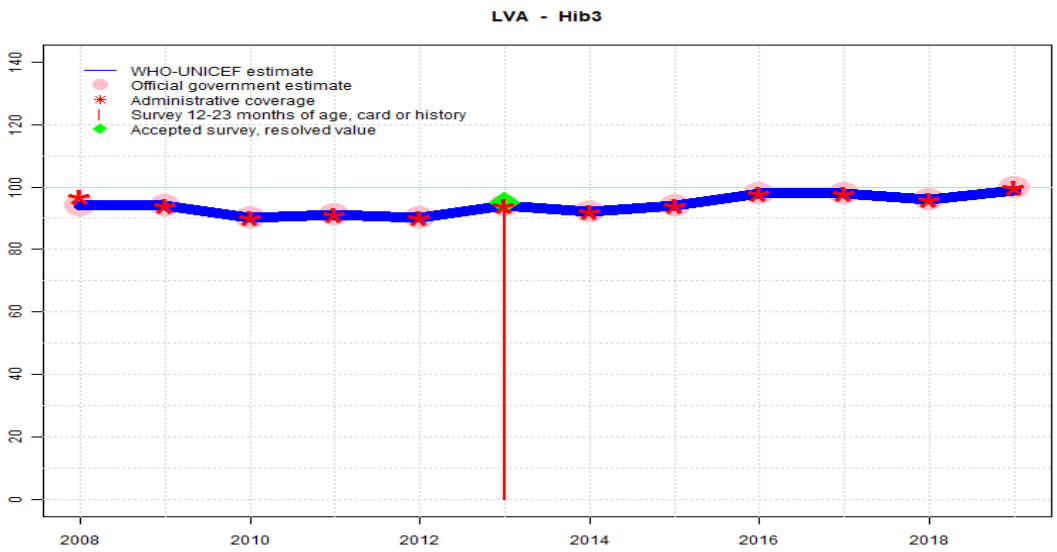
• There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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:

2019: Estimate based on coverage reported by national government. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+
2018: Estimate based on coverage reported by national government. GoC=R+ D+
2017: Estimate based on coverage reported by national government. GoC=R+ D+
2016: Estimate based on coverage reported by national government. GoC=R+ D+
2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2014: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). GoC=R+ S+ D+
2012: Estimate based on reported data. GoC=R+ S+ D+
2011: Estimate based on reported data. GoC=R+ S+ D+
2010: Estimate based on reported data. GoC=R+ D+
2009: Estimate based on reported data. GoC=R+ D+
2008: Estimate based on reported data. GoC=R+ D+

Latvia - Hib3



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	94	94	90	91	90	94	92	94	98	98	96	99
Estimate GoC	••	••	••	•	•••	•••	•••	•••	••	••	••	••
Official	94	94	90	91	90	94	92	94	98	98	96	100
Administrative	97	94	90	91	90	94	92	94	98	98	96	100
Survey	NA	NA	NA	NA	NA	95	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: 2019 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.

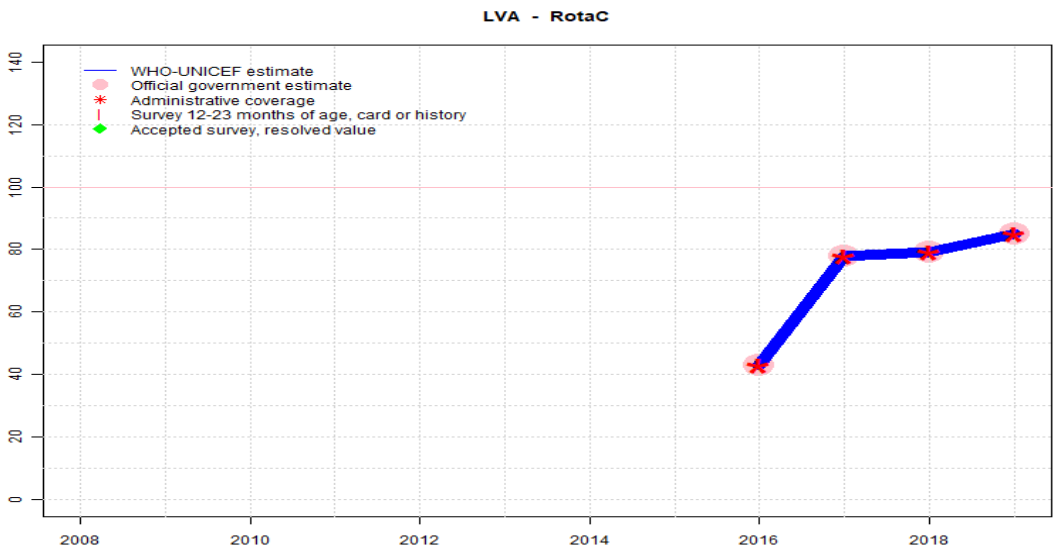
• There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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:

2019: Estimate based on coverage reported by national government. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+
2018: Estimate based on coverage reported by national government. GoC=R+ D+
2017: Estimate based on coverage reported by national government. GoC=R+ D+
2016: Estimate based on coverage reported by national government. GoC=R+ D+
2015: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2014: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). GoC=R+ S+ D+
2012: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
2010: Estimate based on coverage reported by national government. GoC=R+ D+
2009: Estimate based on coverage reported by national government. GoC=R+ D+
2008: Estimate based on coverage reported by national government. GoC=R+ D+

Latvia - RotaC



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	43	78	79	85
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	••	••	••	••
Official	NA	NA	NA	NA	NA	NA	NA	NA	43	78	79	85
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	43	78	79	85
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: 2019 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:

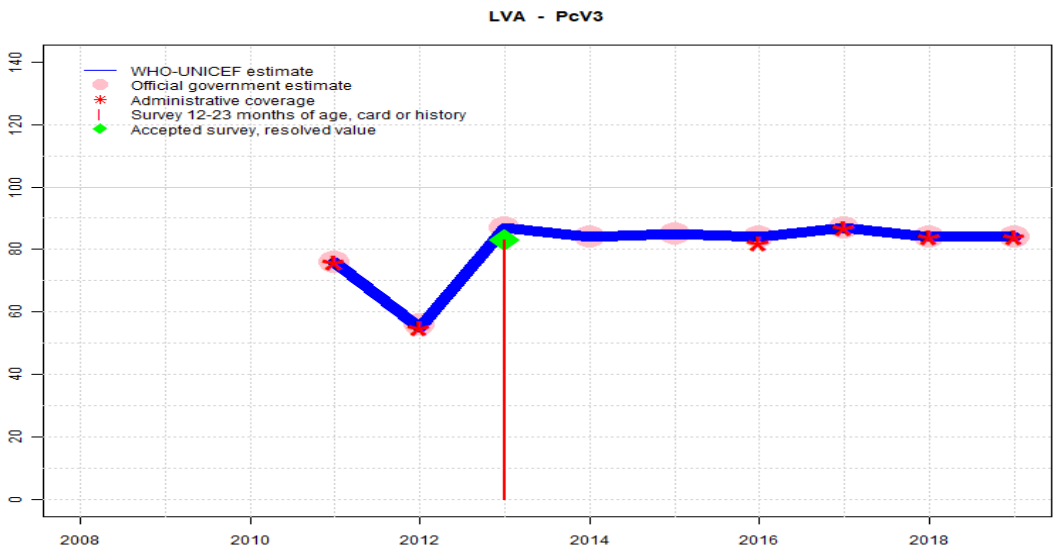
2019: Estimate based on coverage reported by national government. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+

2018: Estimate based on coverage reported by national government. GoC=R+ D+

2017: Estimate based on coverage reported by national government. GoC=R+ D+

2016: Estimate based on coverage reported by national government. Rotavirus vaccine introduced in January 2015 and reporting started in 2016. Estimate of 43 percent changed from previous revision value of 73 percent. GoC=R+ D+

Latvia - PcV3



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estimate	NA	NA	NA	76	55	87	84	85	84	87	84	84
Estimate GoC	NA	NA	NA	●●●	●	●●	●●	●●	●●	●●	●●	●●
Official	NA	NA	NA	76	56	87	84	85	84	87	84	84
Administrative	NA	NA	NA	76	55	NA	NA	NA	82	87	84	84
Survey	NA	NA	NA	NA	NA	83	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: 2019 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:

2019: Estimate based on coverage reported by national government. No nationally representative independent assessment within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+

2018: Estimate based on coverage reported by national government. Programme reports two month vaccine stock-out at national level. Estimate of 84 percent changed from previous revision value of 82 percent. GoC=R+ D+

2017: Estimate based on coverage reported by national government. Estimate of 87 percent changed from previous revision value of 85 percent. GoC=R+ D+

2016: Estimate based on coverage reported by national government. Estimate of 84 percent changed from previous revision value of 82 percent. GoC=R+ D+

2015: Estimate based on coverage reported by national government. Estimate of 85 percent changed from previous revision value of 82 percent. GoC=R+ S+

2014: Estimate based on coverage reported by national government. Estimate of 84 percent changed from previous revision value of 81 percent. GoC=R+ S+

2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). Estimate of 87 percent changed from previous revision value of 83 percent. GoC=R+ S+

2012: Estimate of 55 percent assigned by working group. Reported decline in coverage reflects a change in recommended schedule from 2m, 4m, 6m in 2011 to 2m, 4m and 12-15m during 2012. Reported data excluded due to decline in reported coverage from 76 percent to 56 percent with increase to 87 percent. Estimate challenged by: R-S-

2011: Pneumococcal conjugate vaccine introduced during 2011. GoC=R+ S+ D+

Latvia - survey details

2013 Bernu imunizacijas raditaju parraudzibas un vakcinaciju kavejošo iemeslu apzinašana 2015. Gada

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	97.3	12-23 m	3947	-
DTP3	Card or History	95.3	12-23 m	3947	-
HepB3	Card or History	95.2	12-23 m	3947	-
Hib3	Card or History	95.3	12-23 m	3947	-
MCV1	Card or History	90.8	12-23 m	3947	-
PcV3	Card or History	83.2	12-23 m	3947	-
Pol3	Card or History	95.3	12-23 m	3947	-

Further information and estimates for previous years are available at:
http://www.data.unicef.org/child-health/immunization
http://www.who.int/immunization/monitoring_surveillance/routine/coverage/en/index4.html