

North Macedonia: WHO and UNICEF estimates of immunization coverage: 2024 revision

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 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 available empirical data accurately reflect immunization system performance and those where the data are likely compromised and present a misleading view of coverage.

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. Bull World Health Organ. * Burton et al. 2012. PLoS One.
* Brown et al. 2013. Open Pub Health Journal. * Danovaro-Holliday et al. 2021. Gates Open Res.

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 6-11, 12-23 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 data collection period.

ABBREVIATIONS AND DEFINITIONS

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. For countries utilizing IPV containing vaccine only, i.e., no recommended dose of OPV, 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.

IPV2: percentage of surviving infants who received a 2nd dose of inactivated polio vaccine. IPV2 coverage estimates produced for OPV using countries.

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 in the production of the estimate.

HEPB3: 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 if coverage for the booster dose is not reported.

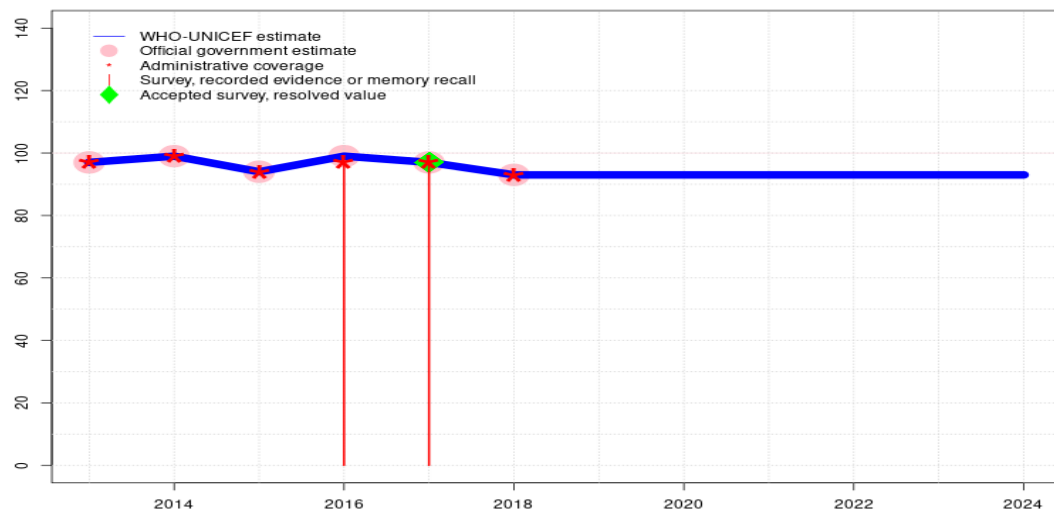
YFV: percentage of surviving infants who received one dose of yellow fever vaccine in countries where YFV is part of the national immunization schedule for children or is recommended in at risk areas; coverage estimates are annualized for the entire cohort of surviving infants.

MENGA: percentage of children who received one dose of meningococcal A conjugate vaccine. MENGA coverage estimates produced for countries in the meningitis belt of sub-Saharan Africa.

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North Macedonia - BCG

MKD - BCG



Description:

- 2024: Estimate based on extrapolation from data reported by national government. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high quality survey to verify reported levels of coverage. GoC=No accepted empirical data
- 2023: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data
- 2022: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data
- 2021: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data
- 2020: Estimate based on extrapolation from data reported by national government. Decline in reported coverage for most vaccine doses is unexplained by country but aligns with COVID-19 pandemic service disruptions. GoC=No accepted empirical data
- 2019: Estimate informed by 2018 estimates as no reporting for 2019. GoC=Assigned by working group. No empirical data reported.
- 2018: Estimate informed by reported data. GoC=R+ S+ D+
- 2017: Estimate informed by reported data supported by survey. Survey evidence of 97 percent based on 1 survey(s). GoC=R+ S+ D+
- 2016: Estimate informed by reported data. North Macedonia Multiple Indicator Cluster Survey 2018-2019 results ignored. Sample size 265 less than 300. Programme reports one month vaccine shortage. GoC=R+ S+ D+
- 2015: Estimate informed by reported data. GoC=R+ S+ D+
- 2014: Estimate informed by reported data. GoC=R+ D+
- 2013: Estimate informed by reported data. GoC=R+ D+

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 97 | 99 | 94 | 99 | 97 | 93 | 93 | 93 | 93 | 93 | 93 | 93 |
| Estimate GoC | ●● | ●● | ●●● | ●●● | ●●● | ●●● | ● | ● | ● | ● | ● | ● |
| Official | 97 | 99 | 94 | 99 | 97 | 93 | - | - | - | - | - | - |
| Administrative | 97 | 99 | 94 | 97 | 97 | 93 | - | - | - | - | - | - |
| Survey | - | - | - | 96 | 97 | - | - | - | - | - | - | - |

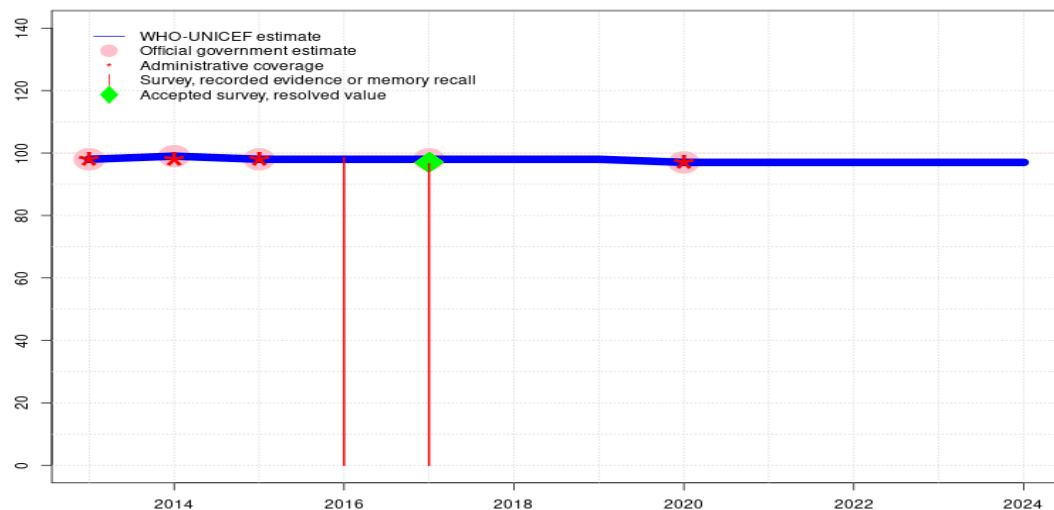
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2024 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.

North Macedonia - HEPBB

MKD - HEPBB



| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 98 | 99 | 98 | 98 | 98 | 98 | 98 | 97 | 97 | 97 | 97 | 97 |
| Estimate GoC | ●● | ●● | ●●● | ●● | ●● | ●● | ● | ●● | ● | ● | ● | ● |
| Official | 98 | 99 | 98 | - | 98 | - | - | 97 | - | - | - | - |
| Administrative | 98 | 98 | 98 | - | - | - | - | 97 | - | - | - | - |
| Survey | - | - | - | 99 | 97 | - | - | - | - | - | - | - |

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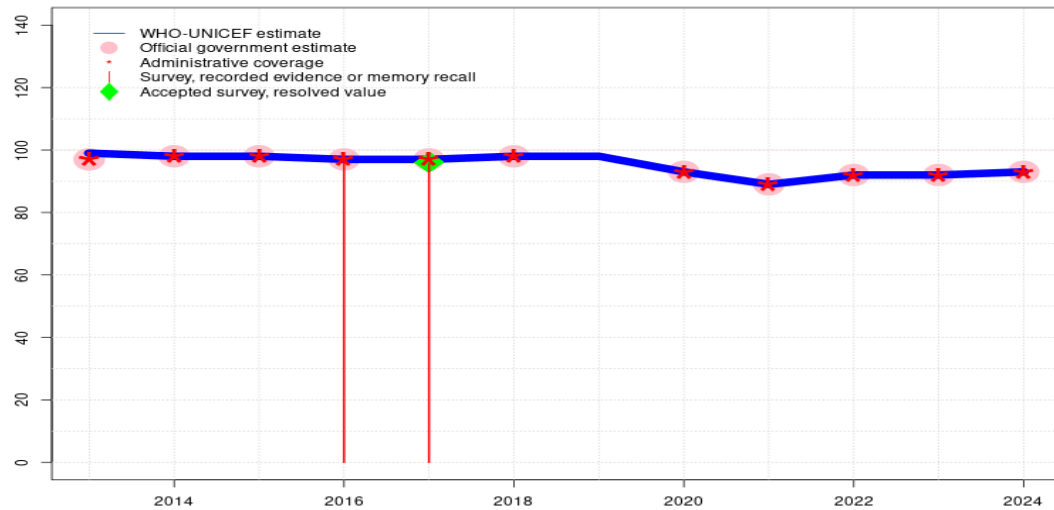
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- 2022: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data
- 2021: Estimate based on extrapolation from data reported by national government. Programme reports six month vaccine stockout at national level. GoC=No accepted empirical data
- 2020: Estimate informed by reported data. GoC=R+ D+
- 2019: Estimate informed by 2018 estimates as no reporting for 2019. GoC=Assigned by working group. No empirical data reported.
- 2018: Estimate informed by interpolation between reported data. GoC=S+
- 2017: Estimate informed by reported data supported by survey. Survey evidence of 97 percent based on 1 survey(s). GoC=R+ S+
- 2016: Estimate informed by interpolation between reported data. North Macedonia Multiple Indicator Cluster Survey 2018-2019 results ignored. Sample size 265 less than 300. GoC=S+
- 2015: Estimate informed by reported data. GoC=R+ S+ D+
- 2014: Estimate informed by reported data. Estimate of 99 percent changed from previous revision value of 98 percent. GoC=R+ D+
- 2013: Estimate informed by reported data. GoC=R+ D+

North Macedonia - DTP1

MKD - DTP1



| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 99 | 98 | 98 | 97 | 97 | 98 | 98 | 93 | 89 | 92 | 92 | 93 |
| Estimate GoC | • | •• | ••• | ••• | ••• | ••• | • | •• | •• | •• | •• | •• |
| Official | 97 | 98 | 98 | 97 | 97 | 98 | - | 93 | 89 | 92 | 92 | 93 |
| Administrative | 97 | 98 | 98 | 97 | 97 | 98 | - | 93 | 89 | 92 | 92 | 93 |
| Survey | - | - | - | 98 | 96 | - | - | - | - | - | - | - |

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

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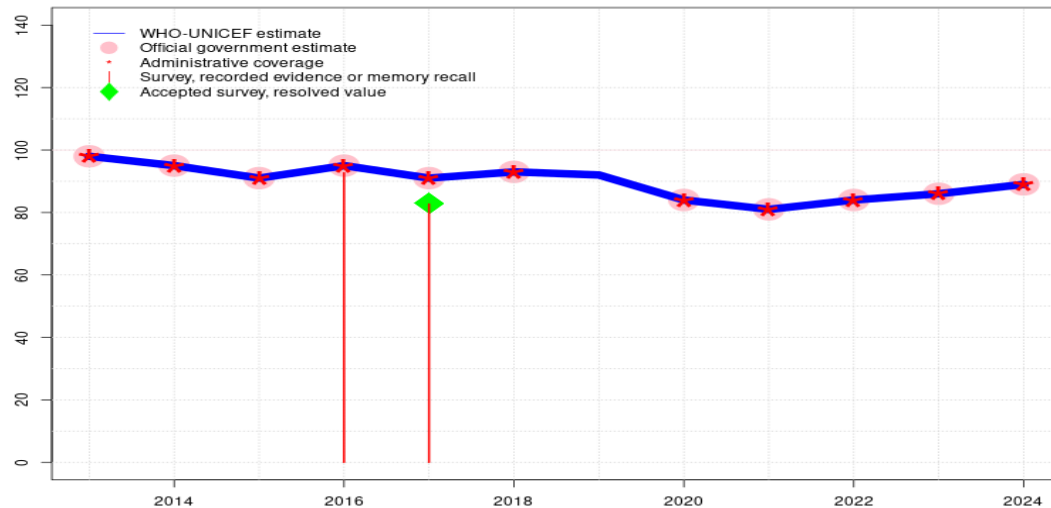
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- 2020: Estimate informed by reported data. Decline in reported coverage for most vaccine doses is unexplained by country but aligns with COVID-19 pandemic service disruptions. GoC=R+ D+
- 2019: Estimate informed by 2018 estimates as no reporting for 2019. GoC=Assigned by working group. No empirical data reported.
- 2018: Estimate informed by reported data. GoC=R+ S+ D+
- 2017: Estimate informed by reported data supported by survey. Survey evidence of 96 percent based on 1 survey(s). GoC=R+ S+ D+
- 2016: Estimate informed by reported data. North Macedonia Multiple Indicator Cluster Survey 2018-2019 results ignored. Sample size 265 less than 300. GoC=R+ S+ D+
- 2015: Estimate informed by reported data. GoC=R+ S+ D+
- 2014: Estimate informed by reported data. GoC=R+ D+
- 2013: Estimate informed by estimated DTP3 coverage adjusted for dropout. Estimate challenged by: R-

North Macedonia - DTP3

MKD - DTP3



Description:

- 2024: Estimate informed by reported data. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high quality survey to verify reported levels of coverage. Estimate challenged by: D-
- 2023: Estimate informed by reported data. GoC=R+ D+
- 2022: Estimate informed by reported data. GoC=R+ D+
- 2021: Estimate informed by reported data. GoC=R+ D+
- 2020: Estimate informed by reported data. Decline in reported coverage for most vaccine doses is unexplained by country but aligns with COVID-19 pandemic service disruptions. GoC=R+ D+
- 2019: Estimate informed by 2018 estimates as no reporting for 2019. GoC=Assigned by working group. No empirical data reported.
- 2018: Estimate informed by reported data. Estimate of 93 percent changed from previous revision value of 92 percent. GoC=R+ S+ D+
- 2017: Estimate informed by reported data supported by survey. Survey evidence of 83 percent based on 1 survey(s). GoC=R+ S+ D+
- 2016: Estimate informed by reported data. North Macedonia Multiple Indicator Cluster Survey 2018-2019 results ignored. Sample size 265 less than 300. Estimate challenged by: S-
- 2015: Estimate informed by reported data. GoC=R+ S+ D+
- 2014: Estimate informed by reported data. GoC=R+ D+
- 2013: Estimate informed by reported data. GoC=R+ D+

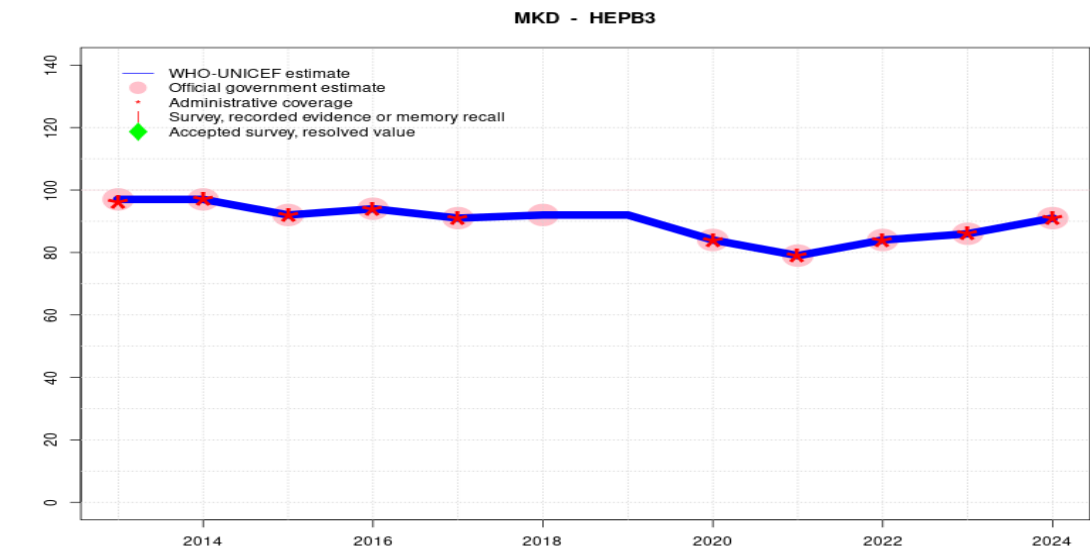
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 98 | 95 | 91 | 95 | 91 | 93 | 92 | 84 | 81 | 84 | 86 | 89 |
| Estimate GoC | ●● | ●● | ●●● | ● | ●●● | ●●● | ● | ●● | ●● | ●● | ●● | ● |
| Official | 98 | 95 | 91 | 95 | 91 | 93 | - | 84 | 81 | 84 | 86 | 89 |
| Administrative | 98 | 95 | 91 | 95 | 91 | 93 | - | 84 | 81 | 84 | 86 | 89 |
| Survey | - | - | - | 93 | 83 | - | - | - | - | - | - | - |

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

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North Macedonia - HEPB3



Description:

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2023: Estimate informed by reported data. GoC=R+ D+

2022: Estimate informed by reported data. GoC=R+ D+

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

2020: Estimate informed by reported data. Decline in reported coverage for most vaccine doses is unexplained by country but aligns with COVID-19 pandemic service disruptions. GoC=R+ D+

2019: Estimate informed by 2018 estimates as no reporting for 2019. GoC=Assigned by working group. No empirical data reported.

2018: Estimate informed by reported data. GoC=R+

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

2016: Estimate informed by reported data. GoC=R+ D+

2015: Estimate informed by reported data. GoC=R+ D+

2014: Estimate informed by reported data. GoC=R+ D+

2013: Estimate informed by reported data. GoC=R+ D+

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 97 | 97 | 92 | 94 | 91 | 92 | 92 | 84 | 79 | 84 | 86 | 91 |
| Estimate GoC | ●● | ●● | ●● | ●● | ●● | ●● | ● | ●● | ●● | ●● | ●● | ● |
| Official | 97 | 97 | 92 | 94 | 91 | 92 | - | 84 | 79 | 84 | 86 | 91 |
| Administrative | 96 | 97 | 92 | 94 | 91 | - | - | 84 | 79 | 84 | 86 | 91 |
| Survey | - | - | - | - | - | - | - | - | - | - | - | - |

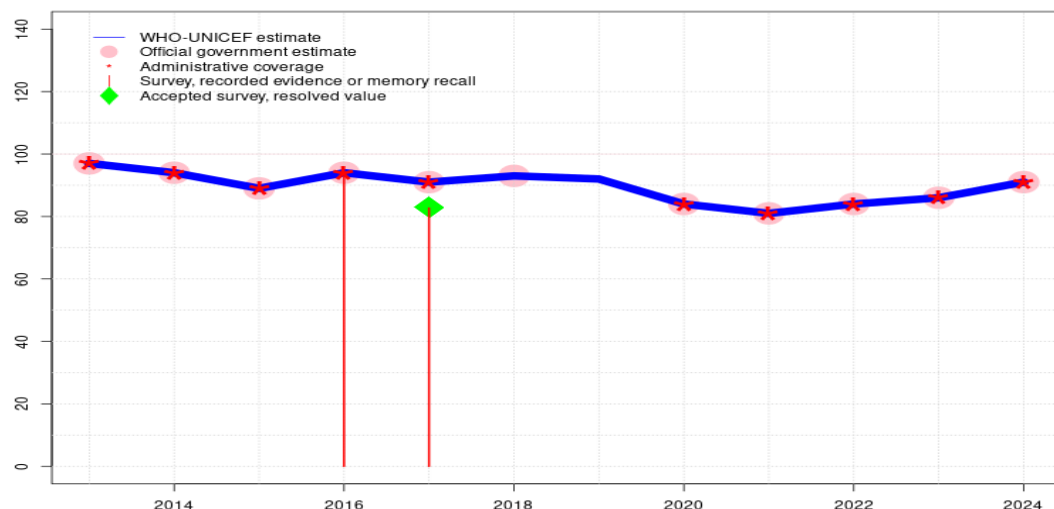
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North Macedonia - HIB3

MKD - HIB3



| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 97 | 94 | 89 | 94 | 91 | 93 | 92 | 84 | 81 | 84 | 86 | 91 |
| Estimate GoC | •• | •• | • | • | ••• | •• | • | •• | •• | •• | •• | • |
| Official | 97 | 94 | 89 | 94 | 91 | 93 | - | 84 | 81 | 84 | 86 | 91 |
| Administrative | 97 | 94 | 89 | 94 | 91 | - | - | 84 | 81 | 84 | 86 | 91 |
| Survey | - | - | - | 93 | 83 | - | - | - | - | - | - | - |

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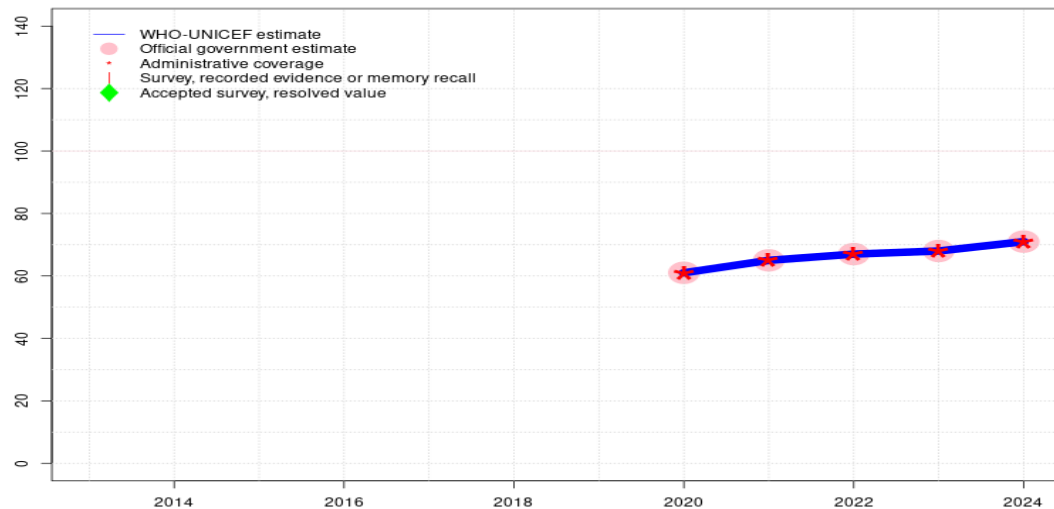
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- 2015: Estimate informed by reported data. Estimate challenged by: D-
- 2014: Estimate informed by reported data. GoC=R+ D+
- 2013: Estimate informed by reported data. GoC=R+ D+

North Macedonia - ROTAC

MKD - ROTAC



Description:

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2023: Estimate informed by reported data. GoC=R+ D+

2022: Estimate informed by reported data. Estimate challenged by: D-

2021: Estimate informed by reported data. Estimate challenged by: D-

2020: Estimate informed by reported data. Vaccine introduced in 2019. Reporting started for 2020. Vaccine is recommended for administration at 2m / 4m / 12m. Estimate challenged by: D-

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | - | - | - | - | - | - | - | 61 | 65 | 67 | 68 | 71 |
| Estimate GoC | - | - | - | - | - | - | - | • | • | • | •• | •• |
| Official | - | - | - | - | - | - | - | 61 | 65 | 67 | 68 | 71 |
| Administrative | - | - | - | - | - | - | - | 61 | 65 | 67 | 68 | 71 |
| Survey | - | - | - | - | - | - | - | - | - | - | - | - |

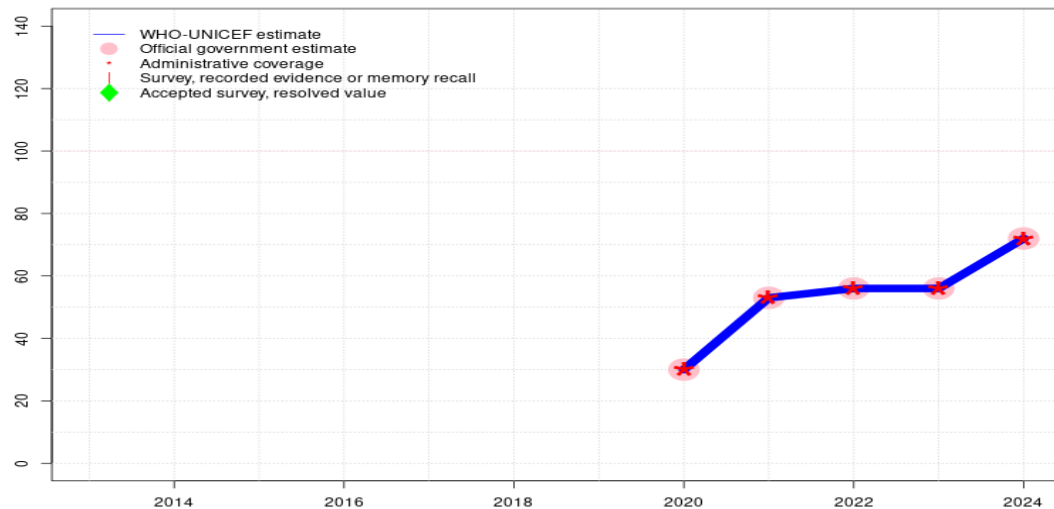
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2024 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.

North Macedonia - PCV3

MKD - PCV3



Description:

- 2024: Estimate informed by reported data. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high quality survey to verify reported levels of coverage. GoC=R+ D+
- 2023: Estimate informed by reported data. GoC=R+ D+
- 2022: Estimate informed by reported data. Reported coverage reflects that for the 12 m dose. Reported coverage for the 2nd dose recommended at 4 m is 79 percent. GoC=R+ D+
- 2021: Estimate informed by reported data. Reported coverage reflects that for the 12 m dose. Reported coverage for the 2nd dose recommended at 4 m is 78 percent. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Vaccine introduced in 2019. Reporting started for 2020. Reported coverage reflects that for the 12 m dose. Reported coverage for the 2nd dose recommended at 4 m is 75 percent. Estimate challenged by: D-

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | - | - | - | - | - | - | - | 30 | 53 | 56 | 56 | 72 |
| Estimate GoC | - | - | - | - | - | - | - | ● | ● | ●● | ●● | ●● |
| Official | - | - | - | - | - | - | - | 30 | 53 | 56 | 56 | 72 |
| Administrative | - | - | - | - | - | - | - | 30 | 53 | 56 | 56 | 72 |
| Survey | - | - | - | - | - | - | - | - | - | - | - | - |

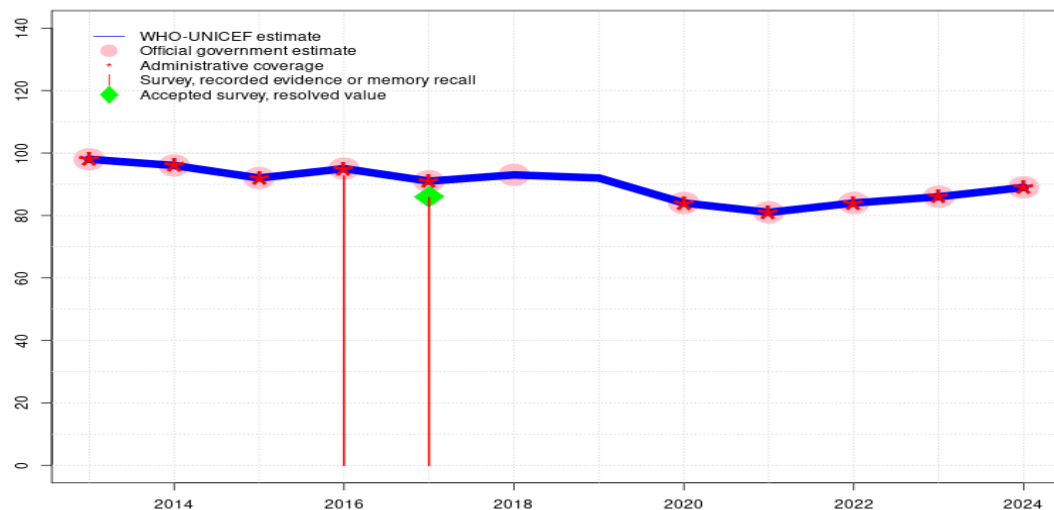
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2024 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.

North Macedonia - POL3

MKD - POL3



| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 98 | 96 | 92 | 95 | 91 | 93 | 92 | 84 | 81 | 84 | 86 | 89 |
| Estimate GoC | •• | •• | ••• | ••• | ••• | •• | • | •• | •• | •• | •• | • |
| Official | 98 | 96 | 92 | 95 | 91 | 93 | - | 84 | 81 | 84 | 86 | 89 |
| Administrative | 98 | 96 | 92 | 95 | 91 | - | - | 84 | 81 | 84 | 86 | 89 |
| Survey | - | - | - | 93 | 86 | - | - | - | - | - | - | - |

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: 2024 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.

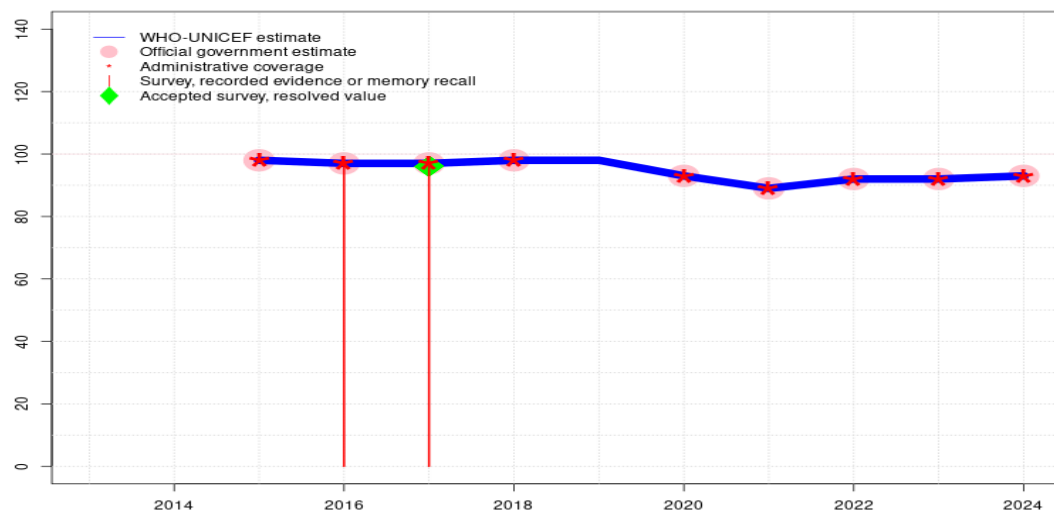
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2024: Estimate informed by reported data. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high quality survey to verify reported levels of coverage. Estimate challenged by: D-
- 2023: Estimate informed by reported data. GoC=R+ D+
- 2022: Estimate informed by reported data. GoC=R+ D+
- 2021: Estimate informed by reported data. GoC=R+ D+
- 2020: Estimate informed by reported data. Decline in reported coverage for most vaccine doses is unexplained by country but aligns with COVID-19 pandemic service disruptions. GoC=R+ D+
- 2019: Estimate informed by 2018 estimates as no reporting for 2019. GoC=Assigned by working group. No empirical data reported.
- 2018: Estimate informed by reported data. Estimate of 93 percent changed from previous revision value of 92 percent. GoC=R+ S+
- 2017: Estimate informed by reported data supported by survey. Survey evidence of 86 percent based on 1 survey(s). Country reports one month stockout of OPV. GoC=R+ S+ D+
- 2016: Estimate informed by reported data. North Macedonia Multiple Indicator Cluster Survey 2018-2019 results ignored. Sample size 265 less than 300. GoC=R+ S+ D+
- 2015: Estimate informed by reported data. GoC=R+ S+ D+
- 2014: Estimate informed by reported data. GoC=R+ D+
- 2013: Estimate informed by reported data. GoC=R+ D+

North Macedonia - IPV1

MKD - IPV1



Description:

- 2024: Estimate informed by reported data. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high quality survey to verify reported levels of coverage. GoC=R+ D+
- 2023: Estimate informed by reported data. GoC=R+ D+
- 2022: Estimate informed by reported data. GoC=R+ D+
- 2021: Estimate informed by reported data. GoC=R+ D+
- 2020: Estimate informed by reported data. Decline in reported coverage for most vaccine doses is unexplained by country but aligns with COVID-19 pandemic service disruptions. GoC=R+ D+
- 2019: Estimate informed by 2018 estimates as no reporting for 2019. GoC=Assigned by working group. No empirical data reported.
- 2018: Estimate informed by reported data. GoC=R+ S+ D+
- 2017: Estimate informed by reported data supported by survey. Survey evidence of 96 percent based on 1 survey(s). GoC=R+ S+ D+
- 2016: Estimate informed by reported data. North Macedonia Multiple Indicator Cluster Survey 2018-2019 results ignored. Sample size 265 less than 300. GoC=R+ S+ D+
- 2015: Estimate informed by reported data. Inactivated polio vaccine introduced as DTaP-Hib-IPV and DTaP-Hib-IPV-HepB in 2015 GoC=R+ S+ D+

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | - | - | 98 | 97 | 97 | 98 | 98 | 93 | 89 | 92 | 92 | 93 |
| Estimate GoC | - | - | ●●● | ●●● | ●●● | ●●● | ● | ●● | ●● | ●● | ●● | ●● |
| Official | - | - | 98 | 97 | 97 | 98 | - | 93 | 89 | 92 | 92 | 93 |
| Administrative | - | - | 98 | 97 | 97 | 98 | - | 93 | 89 | 92 | 92 | 93 |
| Survey | - | - | - | 98 | 96 | - | - | - | - | - | - | - |

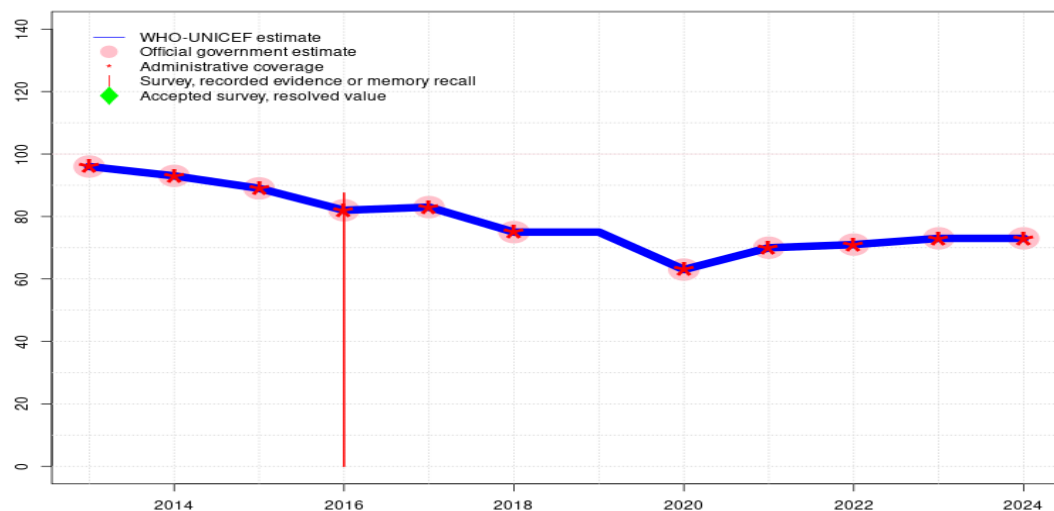
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2024 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.

North Macedonia - MCV1

MKD - MCV1



Description:

2024: Estimate informed by reported data. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high quality survey to verify reported levels of coverage. Estimate challenged by: D-

2023: Estimate informed by reported data. Estimate challenged by: D-

2022: Estimate informed by reported data. Estimate challenged by: D-

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

2020: Estimate informed by reported data. Decline in reported coverage for most vaccine doses is unexplained by country but aligns with COVID-19 pandemic service disruptions. GoC=R+ D+

2019: Estimate informed by 2018 estimates as no reporting for 2019. GoC=Assigned by working group. No empirical data reported.

2018: Estimate informed by reported data. GoC=R+ D+

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

2016: Estimate informed by reported data. North Macedonia Multiple Indicator Cluster Survey 2018-2019 results ignored. Sample size 265 less than 300. GoC=R+ D+

2015: Estimate informed by reported data. GoC=R+ D+

2014: Estimate informed by reported data. GoC=R+ D+

2013: Estimate informed by reported data. GoC=R+ D+

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 96 | 93 | 89 | 82 | 83 | 75 | 75 | 63 | 70 | 71 | 73 | 73 |
| Estimate GoC | ●● | ●● | ●● | ●● | ●● | ●● | ● | ●● | ●● | ● | ● | ● |
| Official | 96 | 93 | 89 | 82 | 83 | 75 | - | 63 | 70 | 71 | 73 | 73 |
| Administrative | 96 | 93 | 89 | 82 | 83 | 75 | - | 63 | 70 | 71 | 73 | 73 |
| Survey | - | - | - | 88 | - | - | - | - | - | - | - | - |

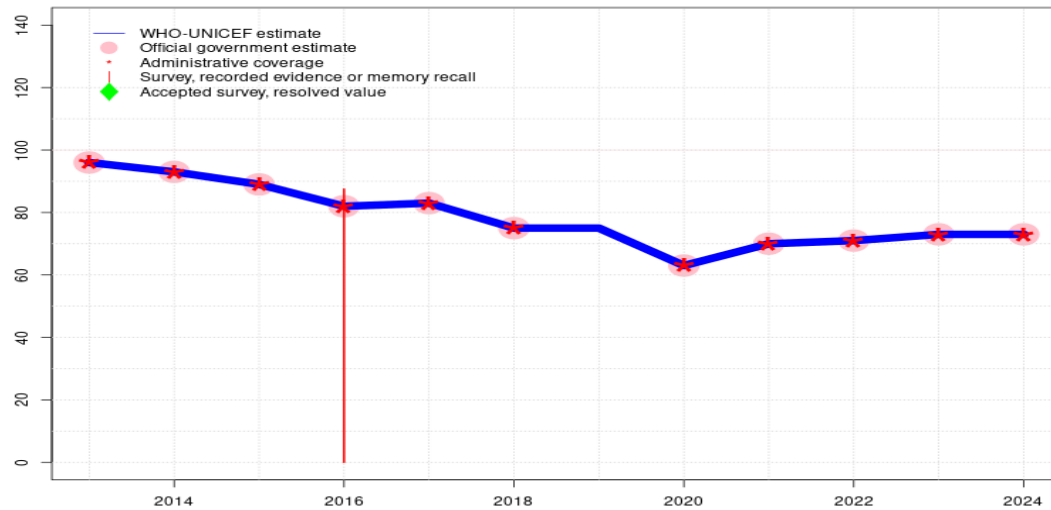
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2024 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.

North Macedonia - RCV1

MKD - RCV1



Description:

2024: Estimate based on estimated MCV1. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high quality survey to verify reported levels of coverage. Estimate challenged by: D-

2023: Estimate based on estimated MCV1. Estimate challenged by: D-

2022: Estimate based on estimated MCV1. Estimate challenged by: D-

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

2020: Estimate based on estimated MCV1. Decline in reported coverage for most vaccine doses is unexplained by country but aligns with COVID-19 pandemic service disruptions. GoC=R+ D+

2019: Estimate informed by 2018 estimates as no reporting for 2019. GoC=Assigned by working group. No empirical data reported.

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

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

2016: Estimate based on estimated MCV1. North Macedonia Multiple Indicator Cluster Survey 2018-2019 results ignored. Sample size 265 less than 300. GoC=R+ D+

2015: Estimate based on estimated MCV1. GoC=R+ D+

2014: Estimate based on estimated MCV1. GoC=R+ D+

2013: Estimate based on estimated MCV1. GoC=R+ D+

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 96 | 93 | 89 | 82 | 83 | 75 | 75 | 63 | 70 | 71 | 73 | 73 |
| Estimate GoC | ●● | ●● | ●● | ●● | ●● | ●● | ● | ●● | ●● | ● | ● | ● |
| Official | 96 | 93 | 89 | 82 | 83 | 75 | - | 63 | 70 | 71 | 73 | 73 |
| Administrative | 96 | 93 | 89 | 82 | 83 | 75 | - | 63 | 70 | 71 | 73 | 73 |
| Survey | - | - | - | 88 | - | - | - | - | - | - | - | - |

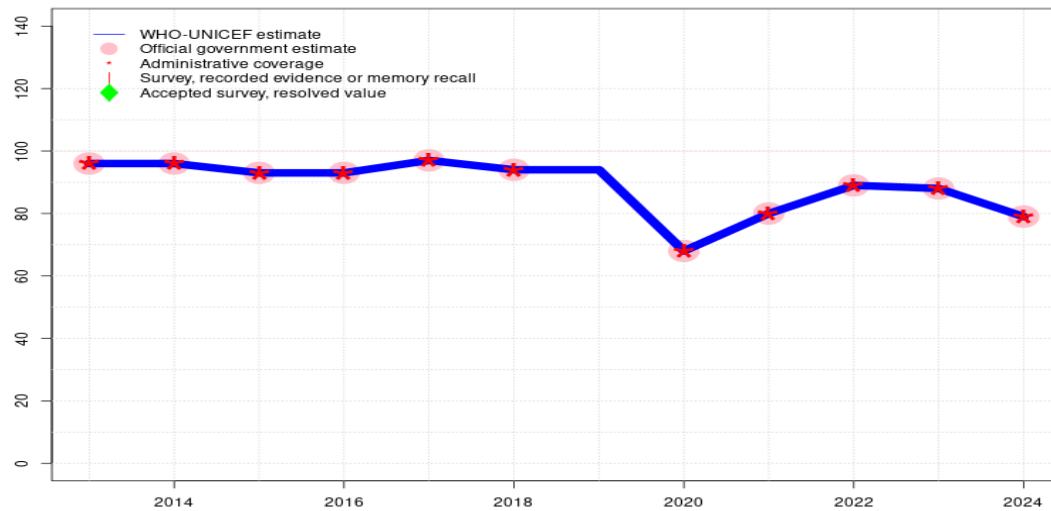
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2024 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.

North Macedonia - MCV2

MKD - MCV2



Description:

2024: Estimate informed by reported data. No nationally representative household survey for the most recent 5 annual birth cohorts. WHO and UNICEF recommend a high quality survey to verify reported levels of coverage. Estimate challenged by: D-

2023: Estimate informed by reported data. Estimate challenged by: D-

2022: Estimate informed by reported data. Estimate challenged by: D-

2021: Estimate informed by reported data. Estimate challenged by: D-

2020: Estimate informed by reported data. Decline in reported coverage for most vaccine doses is unexplained by country but aligns with COVID-19 pandemic service disruptions. GoC=R+ D+

2019: Estimate informed by 2018 estimates as no reporting for 2019. GoC=Assigned by working group. No empirical data reported.

2018: Estimate informed by reported data. GoC=R+ D+

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

2016: Estimate informed by reported data. GoC=R+ D+

2015: Estimate informed by reported data. GoC=R+ D+

2014: Estimate informed by reported data. Estimate challenged by: D-

2013: Estimate informed by reported data. Estimate challenged by: D-

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 96 | 96 | 93 | 93 | 97 | 94 | 94 | 68 | 80 | 89 | 88 | 79 |
| Estimate GoC | • | • | •• | •• | •• | •• | • | •• | • | • | • | • |
| Official | 96 | 96 | 93 | 93 | 97 | 94 | - | 68 | 80 | 89 | 88 | 79 |
| Administrative | 96 | 96 | 93 | 93 | 97 | 94 | - | 68 | 80 | 89 | 88 | 79 |
| Survey | - | - | - | - | - | - | - | - | - | - | - | - |

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: 2024 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.

North Macedonia - Survey Details

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

The survey results below present vaccination coverage estimates by antigen, confirmation method, and child's age at the time of the survey. Coverage based on **Recall** reflects information based upon a mother's or caregiver's memory. Coverage based on **Record** reflects information drawn from documented vaccination history in home- and/or facility-based records. **Evidence seen** reflects the percentage of children in the sample with documented evidence of vaccination history seen by the survey team.

2017 North Macedonia Multiple Indicator Cluster Survey 2018-2019

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Evidence seen |
|---------|----------------------|----------|------------|--------|---------------|
| BCG | Recall | 0 | 12-23 m | 317 | 92 |
| BCG | Record | 96.8 | 12-23 m | 317 | 92 |
| BCG | Record or Recall | 96.8 | 12-23 m | 317 | 92 |
| BCG | Record or Recall<12m | 96.4 | 12-23 m | 317 | 92 |
| DTP1 | Recall | 0 | 12-23 m | 317 | 92 |
| DTP1 | Record | 95.6 | 12-23 m | 317 | 92 |
| DTP1 | Record or Recall | 95.6 | 12-23 m | 317 | 92 |
| DTP1 | Record or Recall<12m | 94.6 | 12-23 m | 317 | 92 |
| DTP3 | Recall | 0 | 12-23 m | 317 | 92 |
| DTP3 | Record | 82.7 | 12-23 m | 317 | 92 |
| DTP3 | Record or Recall | 82.7 | 12-23 m | 317 | 92 |
| DTP3 | Record or Recall<12m | 75.3 | 12-23 m | 317 | 92 |
| HEPB1 | Recall | 0 | 12-23 m | 317 | 92 |
| HEPB1 | Record | 92.7 | 12-23 m | 317 | 92 |
| HEPB1 | Record or Recall | 92.7 | 12-23 m | 317 | 92 |
| HEPB1 | Record or Recall<12m | 91.4 | 12-23 m | 317 | 92 |
| HEPBB | Recall | 0 | 12-23 m | 317 | 92 |
| HEPBB | Record | 96.6 | 12-23 m | 317 | 92 |
| HEPBB | Record or Recall | 96.6 | 12-23 m | 317 | 92 |

| | | | | | |
|-------|----------------------|------|---------|-----|----|
| HEPBB | Record or Recall<12m | 96.6 | 12-23 m | 317 | 92 |
| HIB1 | Recall | 0 | 12-23 m | 317 | 92 |
| HIB1 | Record | 95.3 | 12-23 m | 317 | 92 |
| HIB1 | Record or Recall | 95.3 | 12-23 m | 317 | 92 |
| HIB1 | Record or Recall<12m | 94.6 | 12-23 m | 317 | 92 |
| HIB3 | Recall | 0 | 12-23 m | 317 | 92 |
| HIB3 | Record | 82.7 | 12-23 m | 317 | 92 |
| HIB3 | Record or Recall | 82.7 | 12-23 m | 317 | 92 |
| HIB3 | Record or Recall<12m | 75.4 | 12-23 m | 317 | 92 |
| IPV1 | Recall | 0.3 | 12-23 m | 317 | 92 |
| IPV1 | Record | 95.6 | 12-23 m | 317 | 92 |
| IPV1 | Record or Recall | 95.9 | 12-23 m | 317 | 92 |
| IPV1 | Record or Recall<12m | 94.9 | 12-23 m | 317 | 92 |
| POL1 | Recall | 0.3 | 12-23 m | 317 | 92 |
| POL1 | Record | 95.6 | 12-23 m | 317 | 92 |
| POL1 | Record or Recall | 95.9 | 12-23 m | 317 | 92 |
| POL1 | Record or Recall<12m | 94.9 | 12-23 m | 317 | 92 |
| POL3 | Recall | 0.3 | 12-23 m | 317 | 92 |
| POL3 | Record | 85.5 | 12-23 m | 317 | 92 |
| POL3 | Record or Recall | 85.7 | 12-23 m | 317 | 92 |
| POL3 | Record or Recall<12m | 77.5 | 12-23 m | 317 | 92 |

2016 North Macedonia Multiple Indicator Cluster Survey 2018-2019

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Evidence seen |
|---------|----------------------|----------|------------|--------|---------------|
| BCG | Recall | 0.6 | 24-35 m | 265 | - |
| BCG | Record | 95.8 | 24-35 m | 265 | - |
| BCG | Record or Recall | 96.4 | 24-35 m | 265 | - |
| BCG | Record or Recall<12m | 95.8 | 24-35 m | 265 | - |
| DTP1 | Recall | 0.1 | 24-35 m | 265 | - |
| DTP1 | Record | 98.2 | 24-35 m | 265 | - |
| DTP1 | Record or Recall | 98.3 | 24-35 m | 265 | - |
| DTP1 | Record or Recall<12m | 95.5 | 24-35 m | 265 | - |
| DTP3 | Recall | 0.1 | 24-35 m | 265 | - |
| DTP3 | Record | 92.6 | 24-35 m | 265 | - |
| DTP3 | Record or Recall | 92.7 | 24-35 m | 265 | - |
| DTP3 | Record or Recall<12m | 82.5 | 24-35 m | 265 | - |
| HEPB1 | Recall | 0 | 24-35 m | 265 | - |
| HEPB1 | Record | 97.7 | 24-35 m | 265 | - |

North Macedonia - Survey Details

| | | | | | | | | | | | |
|-------|----------------------|------|---------|-----|---|-------|----------------------|------|---------|-----|----|
| HEPB1 | Record or Recall | 97.7 | 24-35 m | 265 | - | BCG | Record | 95.9 | 18-29 m | 270 | 89 |
| HEPB1 | Record or Recall<12m | 94.3 | 24-35 m | 265 | - | BCG | Record or Recall | 97.6 | 18-29 m | 270 | 89 |
| HEPBB | Recall | 0.6 | 24-35 m | 265 | - | BCG | Record or Recall<18m | 97 | 18-29 m | 270 | 89 |
| HEPBB | Record | 98 | 24-35 m | 265 | - | DTP1 | Recall | 1.8 | 18-29 m | 270 | 89 |
| HEPBB | Record or Recall | 98.6 | 24-35 m | 265 | - | DTP1 | Record | 96.2 | 18-29 m | 270 | 89 |
| HEPBB | Record or Recall<12m | 97.8 | 24-35 m | 265 | - | DTP1 | Record or Recall | 97.9 | 18-29 m | 270 | 89 |
| HIB1 | Recall | 0.1 | 24-35 m | 265 | - | DTP1 | Record or Recall<18m | 97.9 | 18-29 m | 270 | 89 |
| HIB1 | Record | 98.2 | 24-35 m | 265 | - | DTP3 | Recall | 0.9 | 18-29 m | 270 | 89 |
| HIB1 | Record or Recall | 98.3 | 24-35 m | 265 | - | DTP3 | Record | 94.3 | 18-29 m | 270 | 89 |
| HIB1 | Record or Recall<12m | 95.4 | 24-35 m | 265 | - | DTP3 | Record or Recall | 95.2 | 18-29 m | 270 | 89 |
| HIB3 | Recall | 0.1 | 24-35 m | 265 | - | DTP3 | Record or Recall<18m | 91.9 | 18-29 m | 270 | 89 |
| HIB3 | Record | 92.6 | 24-35 m | 265 | - | HEPB1 | Recall | 4.8 | 18-29 m | 270 | 89 |
| HIB3 | Record or Recall | 92.7 | 24-35 m | 265 | - | HEPB1 | Record | 92.1 | 18-29 m | 270 | 89 |
| HIB3 | Record or Recall<12m | 81.9 | 24-35 m | 265 | - | HEPB1 | Record or Recall | 96.9 | 18-29 m | 270 | 89 |
| IPV1 | Recall | 0.1 | 24-35 m | 265 | - | HEPB1 | Record or Recall<18m | 96.5 | 18-29 m | 270 | 89 |
| IPV1 | Record | 98.2 | 24-35 m | 265 | - | HEPBB | Recall | 1.8 | 18-29 m | 270 | 89 |
| IPV1 | Record or Recall | 98.3 | 24-35 m | 265 | - | HEPBB | Record | 96.1 | 18-29 m | 270 | 89 |
| IPV1 | Record or Recall<12m | 95.5 | 24-35 m | 265 | - | HEPBB | Record or Recall | 97.8 | 18-29 m | 270 | 89 |
| MCV1 | Recall | 0.4 | 24-35 m | 265 | - | HEPBB | Record or Recall<18m | 97.4 | 18-29 m | 270 | 89 |
| MCV1 | Record | 87.1 | 24-35 m | 265 | - | HIB1 | Recall | 0.9 | 18-29 m | 270 | 89 |
| MCV1 | Record or Recall | 87.5 | 24-35 m | 265 | - | HIB1 | Record | 97 | 18-29 m | 270 | 89 |
| MCV1 | Record or Recall<12m | 67.6 | 24-35 m | 265 | - | HIB1 | Record or Recall | 97.9 | 18-29 m | 270 | 89 |
| POL1 | Recall | 0.1 | 24-35 m | 265 | - | HIB1 | Record or Recall<18m | 97.9 | 18-29 m | 270 | 89 |
| POL1 | Record | 98.2 | 24-35 m | 265 | - | HIB3 | Recall | 0.9 | 18-29 m | 270 | 89 |
| POL1 | Record or Recall | 98.3 | 24-35 m | 265 | - | HIB3 | Record | 94.4 | 18-29 m | 270 | 89 |
| POL1 | Record or Recall<12m | 95.5 | 24-35 m | 265 | - | HIB3 | Record or Recall | 95.3 | 18-29 m | 270 | 89 |
| POL3 | Recall | 0.1 | 24-35 m | 265 | - | HIB3 | Record or Recall<18m | 93.5 | 18-29 m | 270 | 89 |
| POL3 | Record | 92.6 | 24-35 m | 265 | - | MCV1 | Recall | 1.8 | 18-29 m | 270 | 89 |
| POL3 | Record or Recall | 92.7 | 24-35 m | 265 | - | MCV1 | Record | 94.3 | 18-29 m | 270 | 89 |
| POL3 | Record or Recall<12m | 82.7 | 24-35 m | 265 | - | MCV1 | Record or Recall | 96 | 18-29 m | 270 | 89 |
| RCV1 | Recall | 0.4 | 24-35 m | 265 | - | MCV1 | Record or Recall<18m | 91.6 | 18-29 m | 270 | 89 |
| RCV1 | Record | 87.1 | 24-35 m | 265 | - | POL1 | Recall | 1.8 | 18-29 m | 270 | 89 |
| RCV1 | Record or Recall | 87.5 | 24-35 m | 265 | - | POL1 | Record | 96.2 | 18-29 m | 270 | 89 |
| RCV1 | Record or Recall<12m | 67.6 | 24-35 m | 265 | - | POL1 | Record or Recall | 97.9 | 18-29 m | 270 | 89 |
| | | | | | | POL1 | Record or Recall<18m | 97.9 | 18-29 m | 270 | 89 |
| | | | | | | POL3 | Recall | 1.8 | 18-29 m | 270 | 89 |
| | | | | | | POL3 | Record | 94.9 | 18-29 m | 270 | 89 |
| | | | | | | POL3 | Record or Recall | 96.7 | 18-29 m | 270 | 89 |
| | | | | | | POL3 | Record or Recall<18m | 92.5 | 18-29 m | 270 | 89 |

2009 Macedonia MICS 2011

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Evidence seen |
|---------|---------------------|----------|------------|--------|---------------|
| BCG | Recall | 1.8 | 18-29 m | 270 | 89 |

2004 Republic of Macedonia Multiple Indicator Cluster Survey 2005-2006

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Evidence seen |
|---------|----------------------|----------|------------|--------|---------------|
| BCG | Recall | 19.1 | 15-26 m | 884 | - |
| BCG | Record | 74.3 | 15-26 m | 884 | - |
| BCG | Record or Recall | 98 | 15-26 m | 884 | - |
| BCG | Record or Recall<12m | 97.2 | 15-26 m | 884 | - |
| DTP1 | Recall | 14.9 | 15-26 m | 884 | - |
| DTP1 | Record | 74.6 | 15-26 m | 884 | - |
| DTP1 | Record or Recall | 96.6 | 15-26 m | 884 | - |
| DTP1 | Record or Recall<12m | 94 | 15-26 m | 884 | - |
| DTP3 | Recall | 10.1 | 15-26 m | 884 | - |
| DTP3 | Record | 71.6 | 15-26 m | 884 | - |
| DTP3 | Record or Recall | 88.3 | 15-26 m | 884 | - |
| DTP3 | Record or Recall<12m | 82.1 | 15-26 m | 884 | - |
| MCV1 | Recall | 15.2 | 15-26 m | 884 | - |
| MCV1 | Record | 67.6 | 15-26 m | 884 | - |
| MCV1 | Record or Recall | 88.4 | 15-26 m | 884 | - |
| MCV1 | Record or Recall<12m | 80.4 | 15-26 m | 884 | - |

| | | | | | |
|------|----------------------|------|---------|-----|---|
| POL1 | Recall | 17.6 | 15-26 m | 884 | - |
| POL1 | Record | 73.8 | 15-26 m | 884 | - |
| POL1 | Record or Recall | 97 | 15-26 m | 884 | - |
| POL1 | Record or Recall<12m | 94.6 | 15-26 m | 884 | - |
| POL3 | Recall | 9.4 | 15-26 m | 884 | - |
| POL3 | Record | 72.1 | 15-26 m | 884 | - |
| POL3 | Record or Recall | 86.4 | 15-26 m | 884 | - |
| POL3 | Record or Recall<12m | 80.8 | 15-26 m | 884 | - |

1998 Multiple Indicator Cluster Survey in FYR Macedonia with Micronutrient Component, 2000

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Evidence seen |
|---------|---------------------|----------|------------|--------|---------------|
| BCG | Record or Recall | 99.1 | 13-24 m | 275 | - |
| DTP3 | Record or Recall | 97.9 | 13-24 m | 275 | - |
| MCV1 | Record or Recall | 92 | 13-24 m | 275 | - |
| POL3 | Record or Recall | 97.9 | 13-24 m | 275 | - |

Further information and estimates for previous years are available at:

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

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