Austria: WHO and UNICEF estimates of immunization coverage: 2020 revision

BCG — No estimate for infant immunization made.

DTP1

DTP3

Pol3

MCV1

HepB3

Hib3

RotaC

PcV3 — No estimate for infant immunization made.

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

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

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

DATA SOURCES.

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

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

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

ABBREVIATIONS

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

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

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

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

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

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

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

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

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

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

Hib3: percentage of surviving infants who received the 3rd dose of Haemophilus influenzae type b containing vaccine.
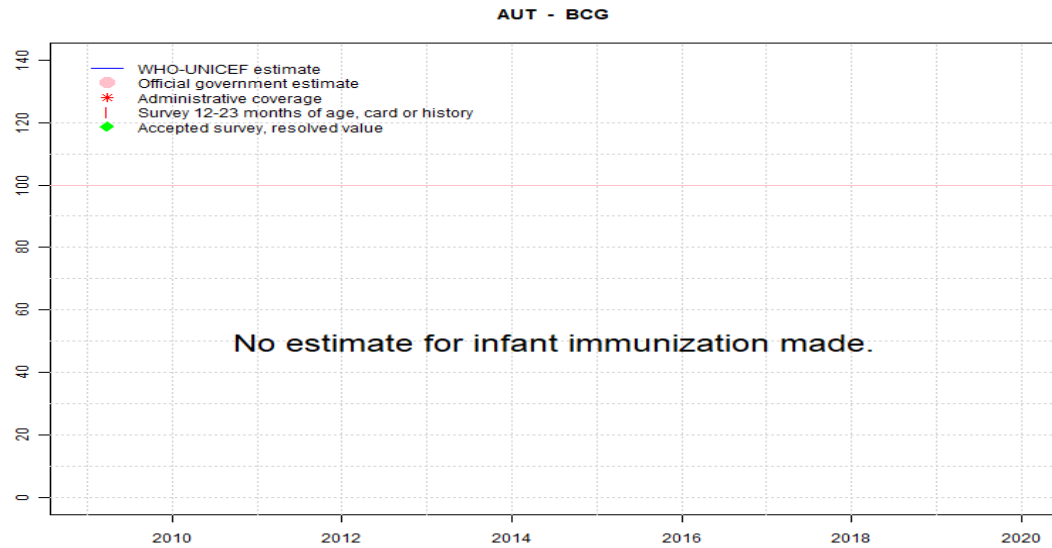
RotaC: percentage of surviving infants who received the final recommended dose of rotavirus vaccine, which can be either the 2nd or the 3rd dose depending on the vaccine.

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

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

Austria - BCG

AUT - BCG

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

No estimate for infant immunization made.

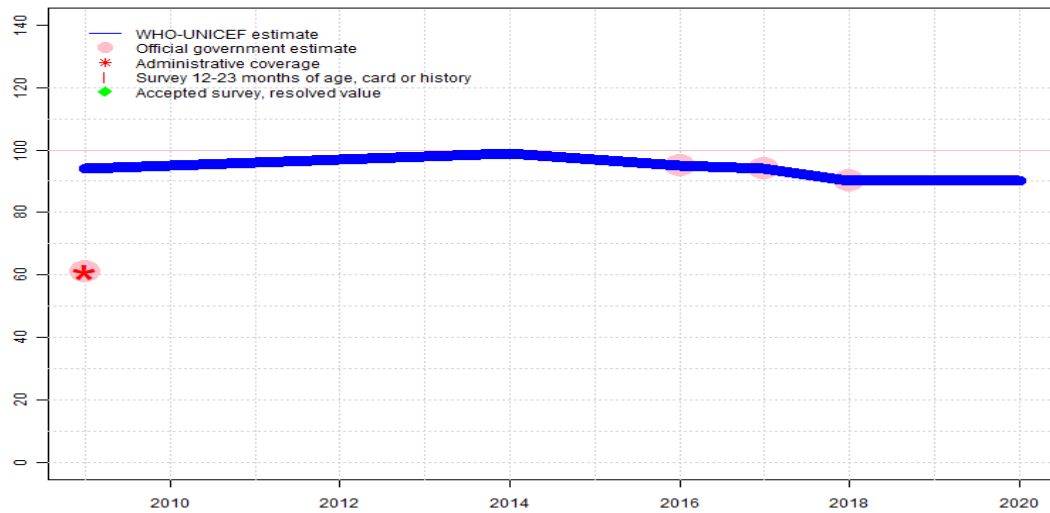|	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator
from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at
least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk
of being wrong.

●● Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or
[S-], challenges the estimate.

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

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

AUT - DTP1

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	94	95	96	97	98	99	97	95	94	90	90	90
Estimate GoC	●	●	●	●	●	●	●	●●	●●	●●	●	●
Official	61	NA	NA	NA	NA	NA	NA	95	94	90	NA	NA
Administrative	61	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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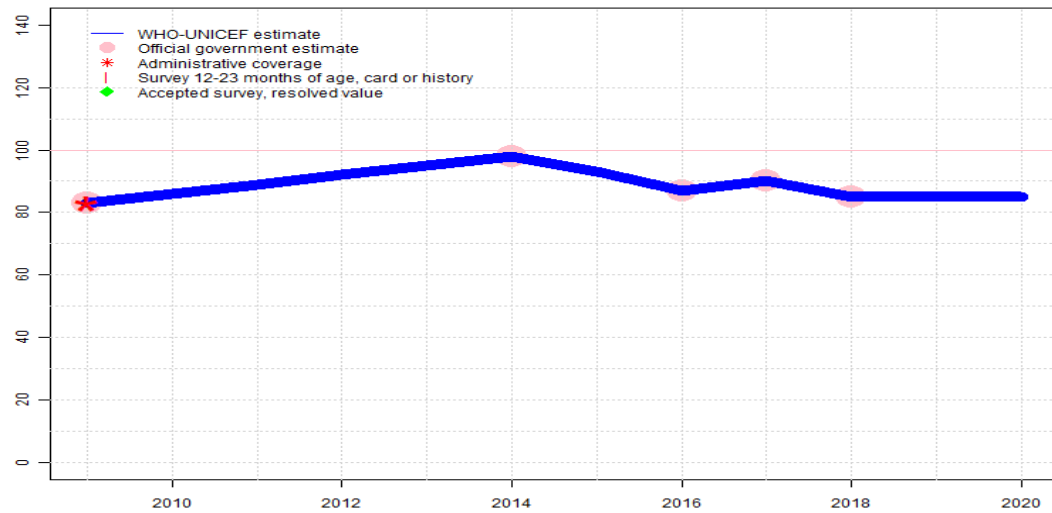
In all cases these estimates should be used with caution and should be assessed in light
of the objective for which they are being used.

Description:

2020: Estimate based on extrapolation from data reported by national government. Data are not reported due to COVID-19 disruptions. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. 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=No accepted empirical data

2019: Estimate based on extrapolation from data reported by national government. 2019 coverage data not reported because the calculations were not done in 2020 due to COVID-19. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. GoC=No accepted empirical data

2018: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2017. GoC=R+

2017: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2016. Programme reports seven month stock-out of vaccine. GoC=R+

2016: . Reported coverage reflects that achieved among children aged 4 years as of December 2015. Programme reports implementation of new agent-based, dynamic simulation model for estimating MMR and hexavalent vaccination coverage that considers distributed number of doses, administered number of doses, sales figures, as well as population characteristics, e.g. aging, births, deaths, emigration, and immigration. New vaccination coverage rates are not comparable to previous estimates. GoC=R+

2015: DTP1 coverage estimated based on DTP3 coverage of 93. Programme reports several months national level stock-out. GoC=No accepted empirical data

2014: DTP1 coverage estimated based on DTP3 coverage of 98. GoC=No accepted empirical data

2013: DTP1 coverage estimated based on DTP3 coverage of 95. GoC=No accepted empirical data

2012: DTP1 coverage estimated based on DTP3 coverage of 92. GoC=No accepted empirical data

2011: DTP1 coverage estimated based on DTP3 coverage of 89. GoC=No accepted empirical data

2010: DTP1 coverage estimated based on DTP3 coverage of 86. GoC=No accepted empirical data

2009: DTP1 coverage estimated based on DTP3 coverage of 83. Estimate challenged by: D-R-

AUT - DTP3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	83	86	89	92	95	98	93	87	90	85	85	85
Estimate GoC	●●	●	●	●	●	●●	●	●●	●●	●●	●	●
Official	83	NA	NA	NA	NA	98	NA	87	90	85	NA	NA
Administrative	83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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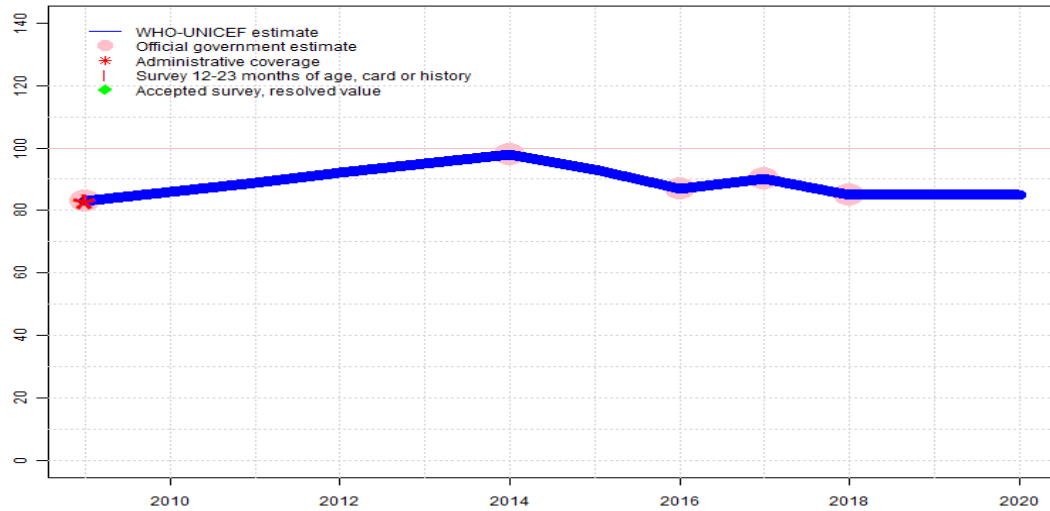
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Description:

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2018: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2017. GoC=R+

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2015: Estimate based on interpolation between data reported by national government. Programme reports several months national level stock-out. GoC=No accepted empirical data

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

2013: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

2012: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

2011: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

2010: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

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

Austria - Pol3

AUT - Pol3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	83	86	89	92	95	98	93	87	90	85	85	85
Estimate GoC	●●	●	●	●	●	●●	●	●●	●●	●●	●	●
Official	83	NA	NA	NA	NA	98	NA	87	90	85	NA	NA
Administrative	83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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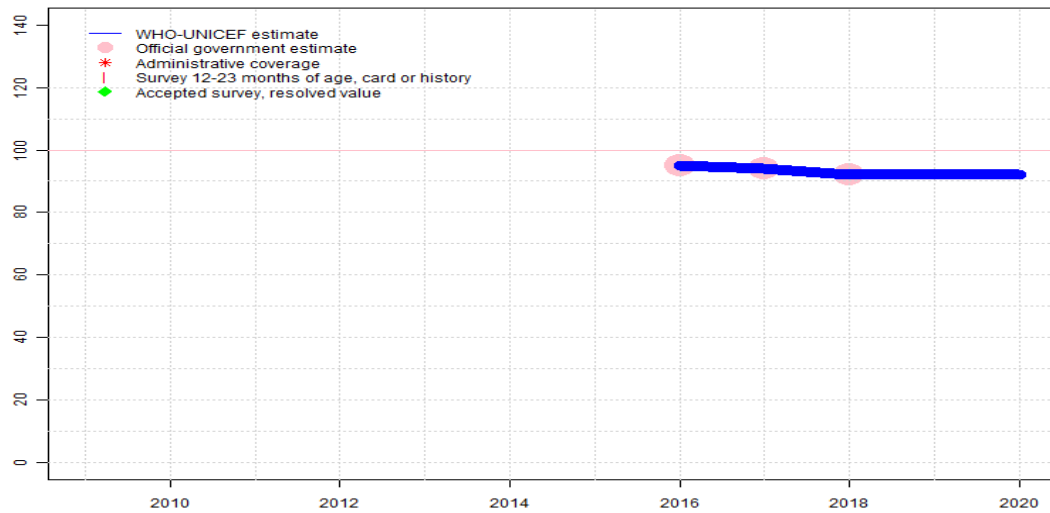
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2016: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged 4 years as of December 2015. Programme reports implementation of new agent-based, dynamic simulation model for estimating MMR and hexavalent vaccination coverage that considers distributed number of doses, administered number of doses, sales figures, as well as population characteristics, e.g. aging, births, deaths, emigration, and immigration. New vaccination coverage rates are not comparable to previous estimates. GoC=R+

2015: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

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

2013: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

2012: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

2011: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

2010: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

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

Austria - IPV1

AUT - IPV1

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	NA	NA	NA	NA	NA	NA	NA	95	94	92	92	92
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	●●	●●	●●	●	●
Official	NA	NA	NA	NA	NA	NA	NA	95	94	92	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

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Description:

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

2020: Estimate based on extrapolation from data reported by national government. Data are not reported due to COVID-19 disruptions. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. 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=No accepted empirical data

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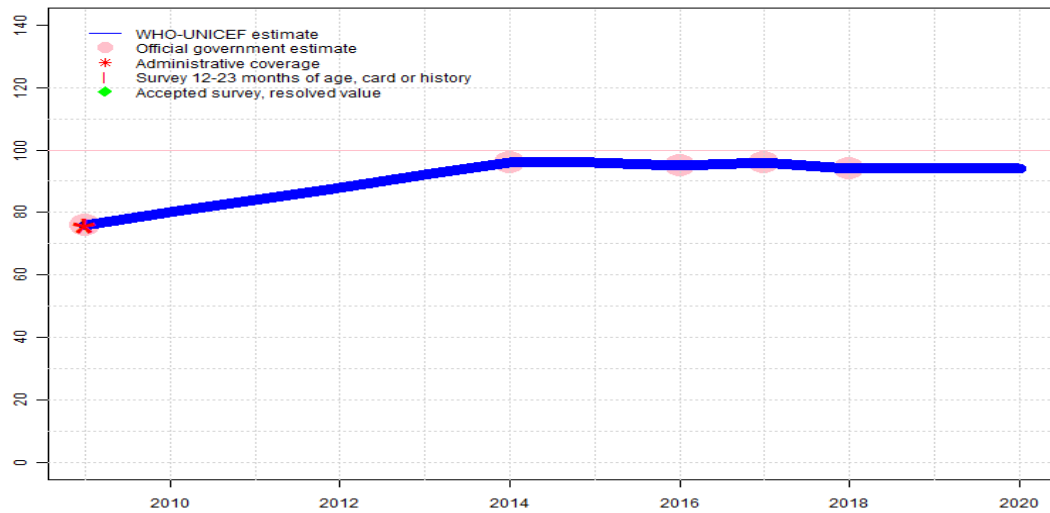
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Austria - MCV1

AUT - MCV1

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	76	80	84	88	92	96	96	95	96	94	94	94
Estimate GoC	●●	●	●	●	●	●●	●	●●	●●	●●	●	●
Official	76	NA	NA	NA	NA	96	NA	95	96	94	NA	NA
Administrative	76	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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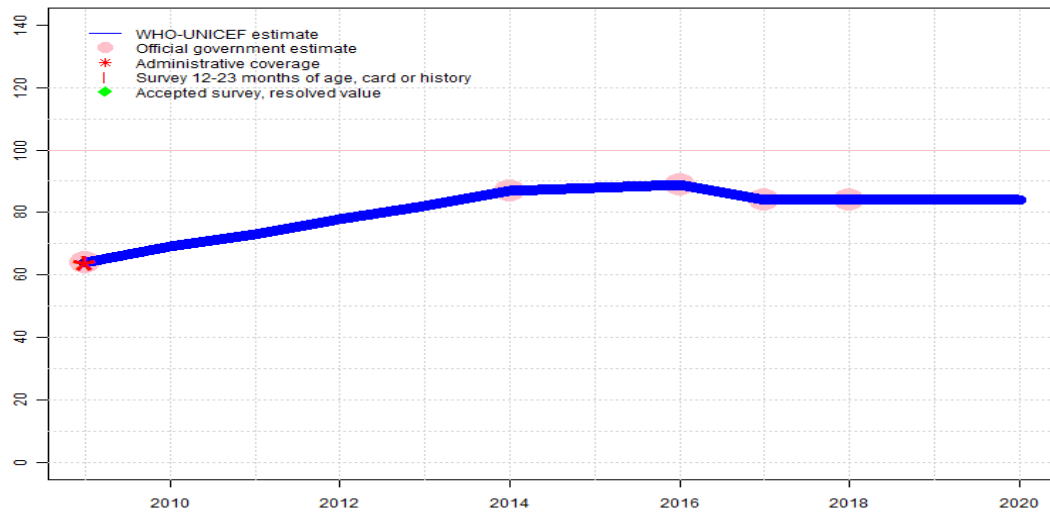
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2018: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2017. GoC=R+

2017: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2016. GoC=R+

2016: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged 4 years as of December 2015. Programme reports implementation of new agent-based, dynamic simulation model for estimating MMR and hexavalent vaccination coverage that considers distributed number of doses, administered number of doses, sales figures, as well as population characteristics, e.g. aging, births, deaths, emigration, and immigration. New vaccination coverage rates are not comparable to previous estimates. GoC=R+

2015: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

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

2013: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

2012: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

2011: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

2010: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data

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

AUT - MCV2

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	64	69	73	78	82	87	88	89	84	84	84	84
Estimate GoC	••	•	•	•	•	••	•	••	••	••	•	•
Official	64	NA	NA	NA	NA	87	NA	89	84	84	NA	NA
Administrative	64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

••• Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

•• Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.

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

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

Description:

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

2020: Estimate based on extrapolation from data reported by national government. Data are not reported due to COVID-19 disruptions. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. 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=No accepted empirical data

2019: Estimate based on extrapolation from data reported by national government. 2019 coverage data not reported because the calculations were not done in 2020 due to COVID-19. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. GoC=No accepted empirical data

2018: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2017. GoC=R+

2017: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2016. GoC=R+

2016: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged 4 years as of December 2015. Programme reports implementation of new agent-based, dynamic simulation model for estimating MMR and hexavalent vaccination coverage that considers distributed number of doses, administered number of doses, sales figures, as well as population characteristics, e.g. aging, births, deaths, emigration, and immigration. New vaccination coverage rates are not comparable to previous estimates. GoC=R+

2015: Estimate based on interpolation between reported values. GoC=No accepted empirical data

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

2013: Estimate based on interpolation between reported values. GoC=No accepted empirical data

2012: Estimate based on interpolation between reported values. GoC=No accepted empirical data

2011: Estimate based on interpolation between reported values. GoC=No accepted empirical data

2010: Estimate based on interpolation between reported values. GoC=No accepted empirical data
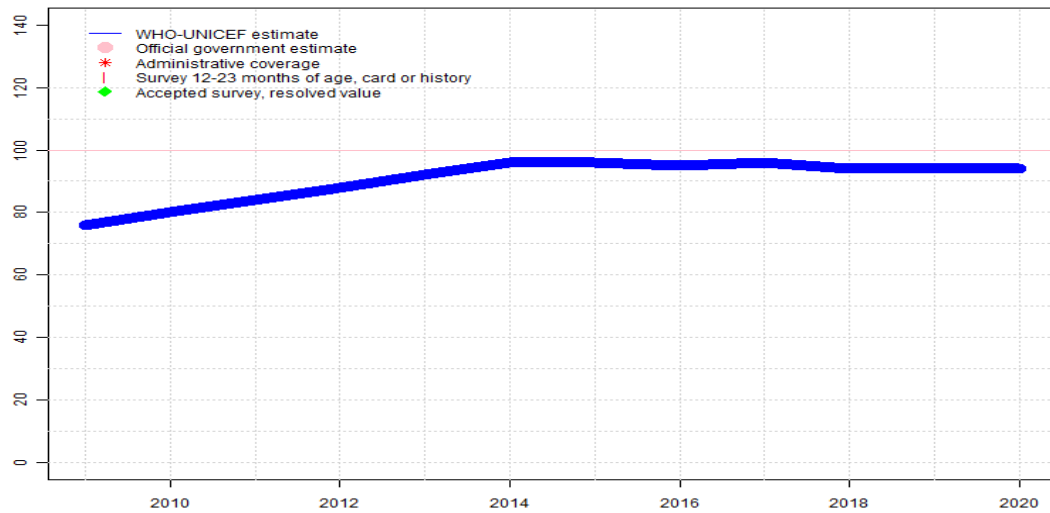
2009: Estimate based on coverage reported by national government. GoC=R+ D+

WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2022 data received as of July 6, 2021

AUT - RCV1

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	76	80	84	88	92	96	96	95	96	94	94	94
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: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

•• Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.

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

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

Description:

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

2020: Estimate based on estimated MCV1. Data are not reported due to COVID-19 disruptions. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. 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=No accepted empirical data

2019: Estimate based on estimated MCV1. 2019 coverage data not reported because the calculations were not done in 2020 due to COVID-19. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. GoC=No accepted empirical data

2018: Estimate based on estimated MCV1. Reported coverage reflects that achieved among children aged four years as of December 2017. GoC=R+

2017: Estimate based on estimated MCV1. Reported coverage reflects that achieved among children aged four years as of December 2016. GoC=R+

2016: Estimate based on estimated MCV1. Reported coverage reflects that achieved among children aged 4 years as of December 2015. Programme reports implementation of new agent-based, dynamic simulation model for estimating MMR and hexavalent vaccination coverage that considers distributed number of doses, administered number of doses, sales figures, as well as population characteristics, e.g. aging, births, deaths, emigration, and immigration. New vaccination coverage rates are not comparable to previous estimates. GoC=R+

2015: Estimate based on estimated MCV1. GoC=No accepted empirical data

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

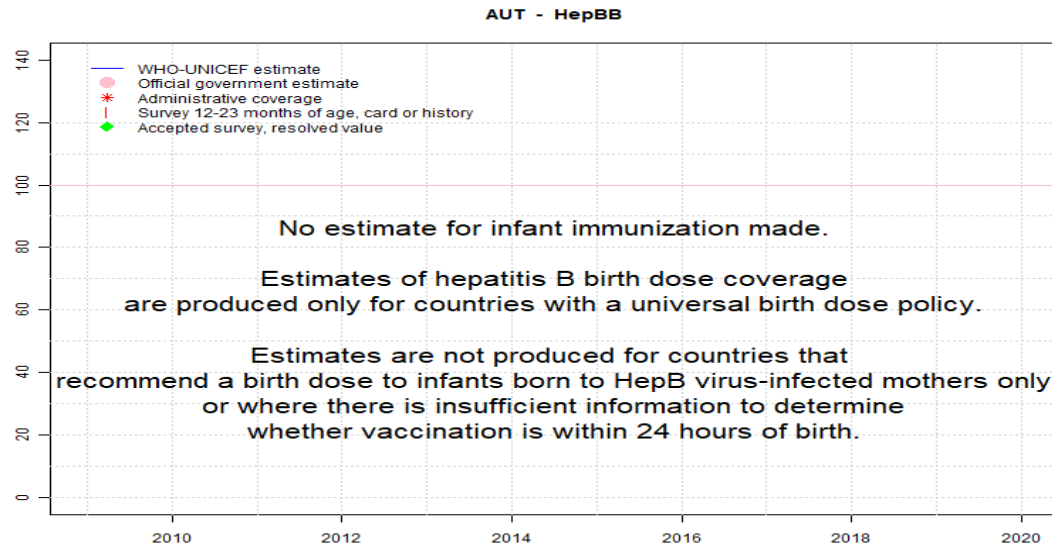2013: Estimate based on estimated MCV1. GoC=No accepted empirical data

2012: Estimate based on estimated MCV1. GoC=No accepted empirical data

2011: Estimate based on estimated MCV1. GoC=No accepted empirical data

2010: Estimate based on estimated MCV1. GoC=No accepted empirical data

2009: Estimate based on estimated MCV1. GoC=R+ D+

AUT - HepBB

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

No estimate for infant immunization made.

Estimates of hepatitis B birth dose coverage
are produced only for countries with a universal birth dose policy.

Estimates are not produced for countries that
recommend a birth dose to infants born to HepB virus-infected mothers only
or where there is insufficient information to determine
whether vaccination is within 24 hours of birth.

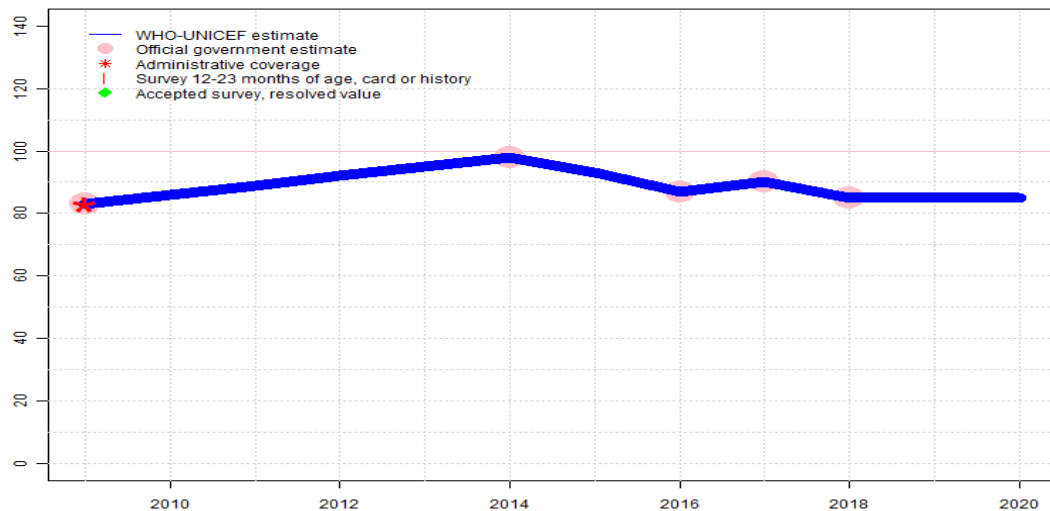|	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator
from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at
least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk
of being wrong.

●● Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or
[S-], challenges the estimate.

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

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

Austria - HepB3

AUT - HepB3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	83	86	89	92	95	98	93	87	90	85	85	85
Estimate GoC	●●	●	●	●	●	●●	●	●●	●●	●●	●	●
Official	83	NA	NA	NA	NA	98	NA	87	90	85	NA	NA
Administrative	83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information
that are of varying, and, in some instances, unknown quality.  Beginning with the 2011 revision we describe
the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon
which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence
intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around
the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is
not a judgment of the quality of data reported by national authorities.
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●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

●● Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.

● There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.
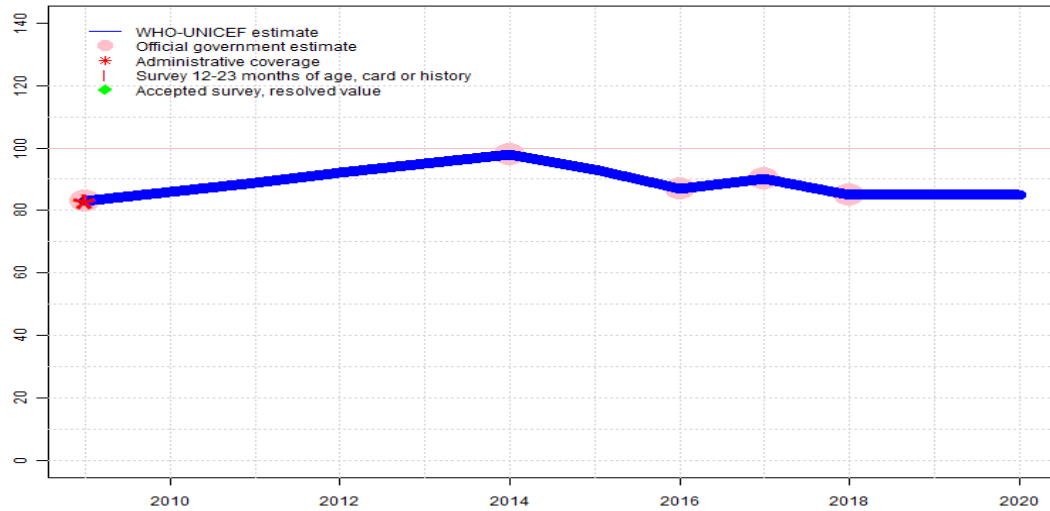
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In all cases these estimates should be used with caution and should be assessed in light
of the objective for which they are being used.
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Description:

2020: Estimate based on extrapolation from data reported by national government. Data are not reported due to COVID-19 disruptions. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. 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=No accepted empirical data

2019: Estimate based on extrapolation from data reported by national government. 2019 coverage data not reported because the calculations were not done in 2020 due to COVID-19. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. GoC=No accepted empirical data

2018: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2017. GoC=R+

2017: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2016. Programme reports seven month stock-out of vaccine. GoC=R+

2016: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged 4 years as of December 2015. Programme reports implementation of new agent-based, dynamic simulation model for estimating MMR and hexavalent vaccination coverage that considers distributed number of doses, administered number of doses, sales figures, as well as population characteristics, e.g. aging, births, deaths, emigration, and immigration. New vaccination coverage rates are not comparable to previous estimates. GoC=R+

2015: Estimate based on interpolation between reported values. GoC=No accepted empirical data

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

2013: Estimate based on interpolation between reported values. GoC=No accepted empirical data

2012: Estimate based on interpolation between reported values. GoC=No accepted empirical data

2011: Estimate based on interpolation between reported values. GoC=No accepted empirical data

2010: Estimate based on interpolation between reported values. GoC=No accepted empirical data

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

Austria - Hib3

AUT - Hib3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	83	86	89	92	95	98	93	87	90	85	85	85
Estimate GoC	●●	●	●	●	●	●●	●	●●	●●	●●	●	●
Official	83	NA	NA	NA	NA	98	NA	87	90	85	NA	NA
Administrative	83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

●● Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.

● There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.
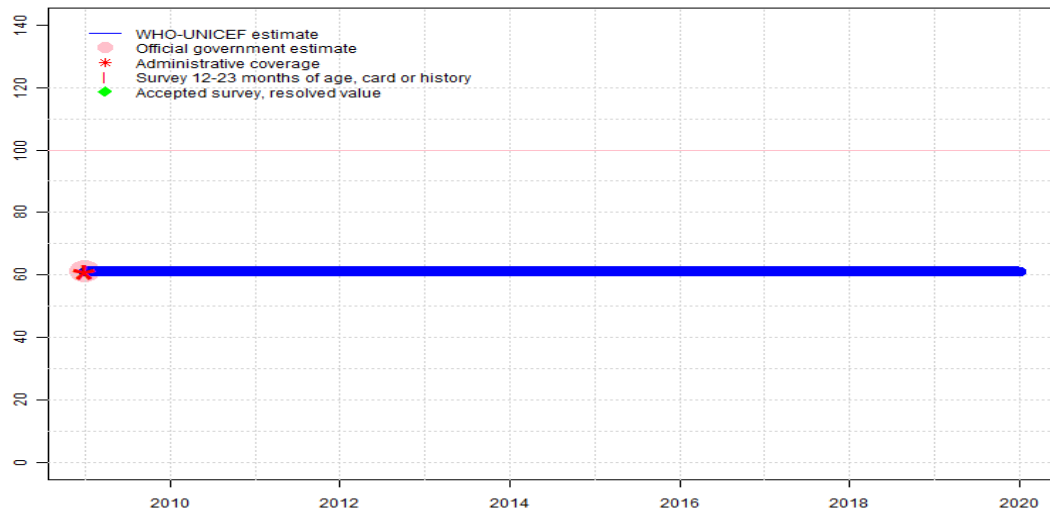
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

2020: Estimate based on extrapolation from data reported by national government. Data are not reported due to COVID-19 disruptions. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. 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=No accepted empirical data

2019: Estimate based on extrapolation from data reported by national government. 2019 coverage data not reported because the calculations were not done in 2020 due to COVID-19. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. GoC=No accepted empirical data

2018: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2017. GoC=R+

2017: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2016. Programme reports seven month stock-out of vaccine. GoC=R+

2016: Estimate based on coverage reported by national government. Reported coverage reflects that achieved among children aged 4 years as of December 2015. Programme reports implementation of new agent-based, dynamic simulation model for estimating MMR and hexavalent vaccination coverage that considers distributed number of doses, administered number of doses, sales figures, as well as population characteristics, e.g. aging, births, deaths, emigration, and immigration. New vaccination coverage rates are not comparable to previous estimates. GoC=R+

2015: Estimate based on interpolation between reported values. GoC=No accepted empirical data

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

2013: Estimate based on interpolation between reported values. GoC=No accepted empirical data

2012: Estimate based on interpolation between reported values. GoC=No accepted empirical data

2011: Estimate based on interpolation between reported values. GoC=No accepted empirical data

2010: Estimate based on interpolation between reported values. GoC=No accepted empirical data

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

Austria - RotaC

AUT - RotaC

Legend:
- — WHO-UNICEF estimate
- ● Official government estimate
- ✳ Administrative coverage
- ∣ Survey 12-23 months of age, card or history
- ◆ Accepted survey, resolved value

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimate	61	61	61	61	61	61	61	61	61	61	61	61
Estimate GoC	●●	●	●	●	●	●	●	●	●	●	●	●
Official	61	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	61	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.
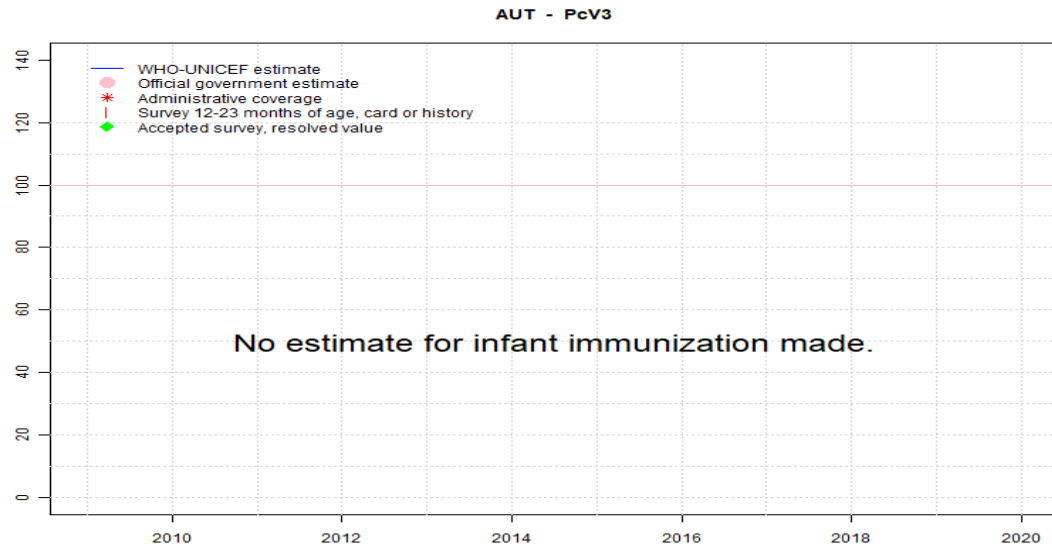
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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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:

2020: Estimate based on extrapolation from data reported by national government. Data are not reported due to COVID-19 disruptions. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. 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=No accepted empirical data

2019: Estimate based on extrapolation from data reported by national government. 2019 coverage data not reported because the calculations were not done in 2020 due to COVID-19. Reported coverage rates are calculated using an agent-based dynamic simulation model. This model considers distributed and administered number of doses, sales figures and other data embedded in a model of the Austrian population included aging, births, deaths and in and out migration. These coverage estimates always refer to children aged 4 years as of 31 December of the respective year. GoC=No accepted empirical data

2018: Estimate based on extrapolation from data reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2017. GoC=No accepted empirical data

2017: Estimate based on extrapolation from data reported by national government. Reported coverage reflects that achieved among children aged four years as of December 2016. GoC=No accepted empirical data

2016: Estimate based on extrapolation from data reported by national government. Reported coverage reflects that achieved among children aged 4 years as of December 2015. GoC=No accepted empirical data

2015: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data

2014: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data

2013: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data

2012: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data

2011: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data

2010: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data

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

AUT - PcV3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history
- Accepted survey, resolved value

No estimate for infant immunization made.

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

```
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information
that are of varying, and, in some instances, unknown quality.  Beginning with the 2011 revision we describe
the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon
which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence
intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around
the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is
not a judgment of the quality of data reported by national authorities.
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●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2020 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

●● Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.

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

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In all cases these estimates should be used with caution and should be assessed in light
of the objective for which they are being used.
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Further information and estimates for previous years are available at:
http://www.data.unicef.org/child-health/immunization
https://www.who.int/teams/immunization-vaccines-and-biologicals/immunization-analysis-and-insights/global-monitoring/data-statistics-and-graphics