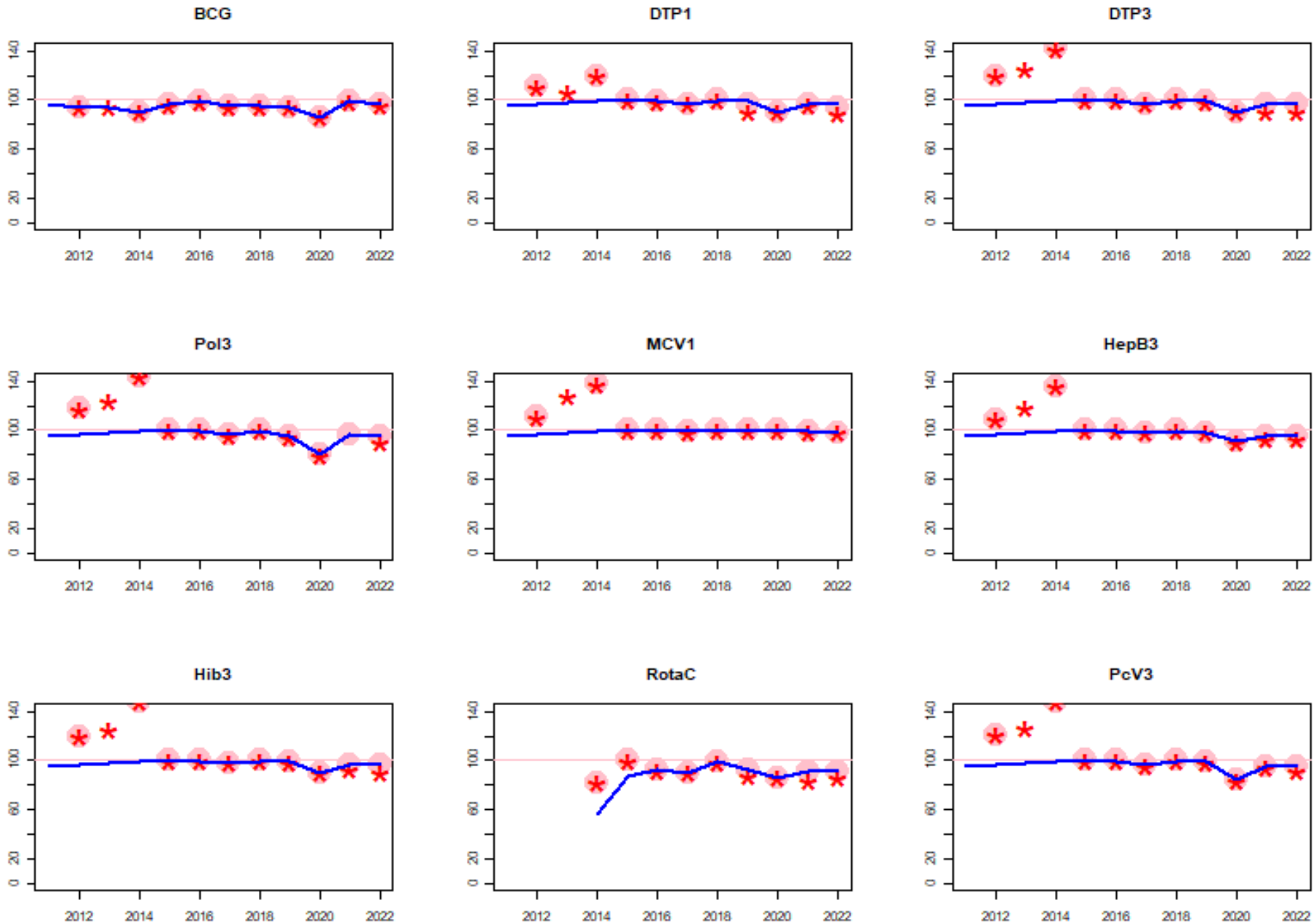


# United Arab Emirates: WHO and UNICEF estimates of immunization coverage: 2022 revision



**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 the published and grey literature. Based on these data, with due consideration to potential biases and the views of local experts, WHO and UNICEF attempt to distinguish between situations where the available empirical data accurately reflect immunization system performance and those where the data are likely to be compromised and present a misleading view of immunization coverage while jointly estimating the most likely coverage levels for each country.

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

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

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

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

## DATA SOURCES.

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

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

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

## ABBREVIATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

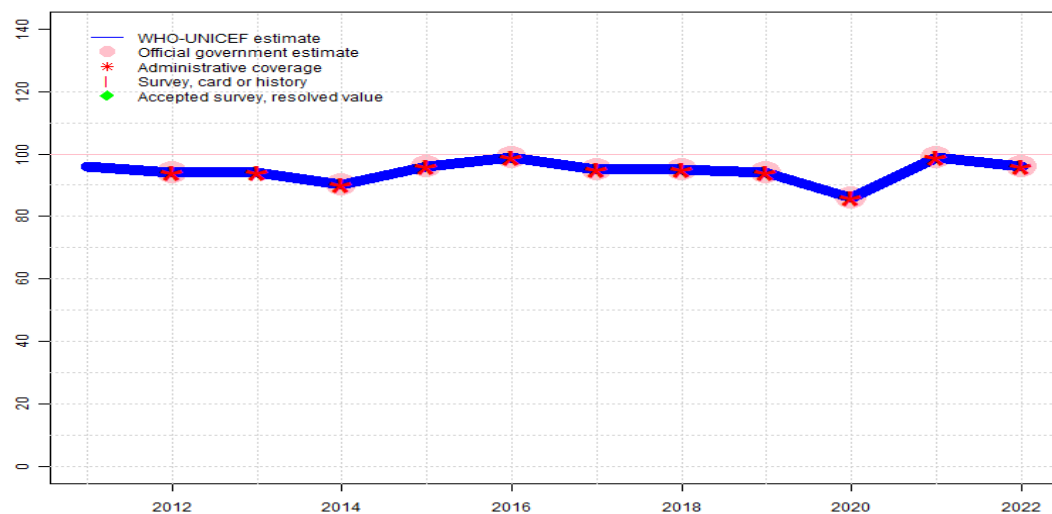
**PcV3:** percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

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

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# United Arab Emirates - BCG

ARE - BCG



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	96	94	94	90	96	99	95	95	94	86	99	96
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	NA	94	NA	90	96	99	95	95	94	86	99	96
Administrative	NA	94	94	90	96	99	95	95	94	86	99	96
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

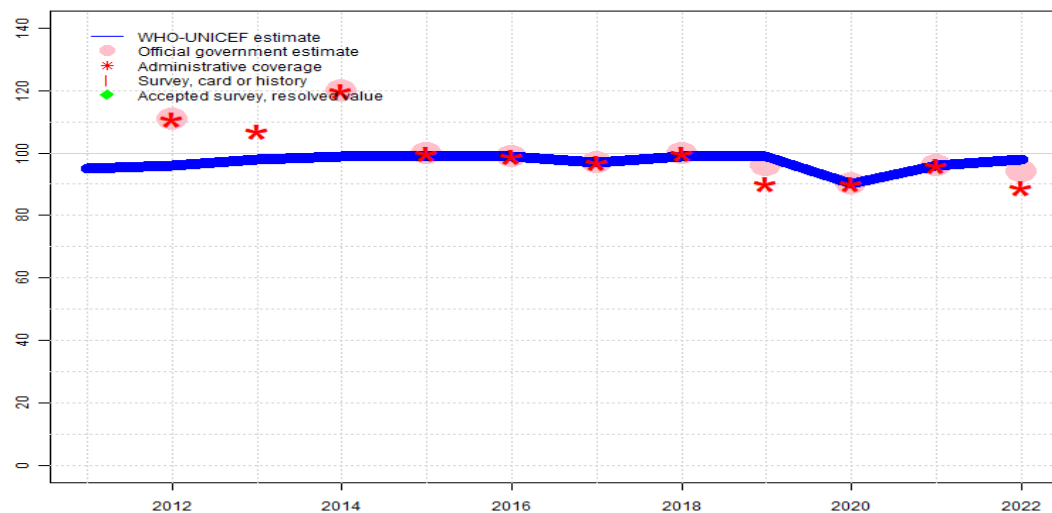
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-
- 2021: Estimate informed by reported data. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Estimate challenged by: D-
- 2019: Estimate informed by reported data. Estimate challenged by: D-
- 2018: Estimate informed by reported data. Estimate challenged by: D-
- 2017: Estimate informed by reported data. Estimate challenged by: D-
- 2016: Estimate informed by reported data. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. Estimate challenged by: D-
- 2015: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2014: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2013: Estimate informed by reported administrative data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2012: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2011: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

# United Arab Emirates - DTP1

ARE - DTP1



## Description:

- 2022: DTP1 coverage estimated based on DTP3 coverage of 96. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-R-
- 2021: Estimate informed by reported data. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Estimate challenged by: D-
- 2019: DTP1 coverage estimated based on DTP3 coverage of 99. Estimate challenged by: D-R-
- 2018: Estimate informed by reported data. Estimate challenged by: D-
- 2017: Estimate informed by reported data. Estimate challenged by: D-
- 2016: DTP1 coverage estimated based on DTP3 coverage of 100. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. Estimate challenged by: D-R-
- 2015: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2014: Estimate informed by interpolation between reported data. Reported data excluded because 120 percent greater than 100 percent. Reported data excluded due to an increase from 107 percent to 120 percent with decrease 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2013: Estimate informed by interpolation between reported data. Reported data excluded because 107 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2012: Estimate informed by interpolation between reported data. Reported data excluded because 111 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Rise in reported coverage above 100 percent is attributed to the inclusion of foreign-born children in the numerator. Estimate challenged by: D-
- 2011: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	95	96	98	99	99	99	97	99	99	90	96	98
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	NA	111	NA	120	100	99	97	100	96	90	96	94
Administrative	NA	111	107	120	100	99	97	100	90	90	96	89
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

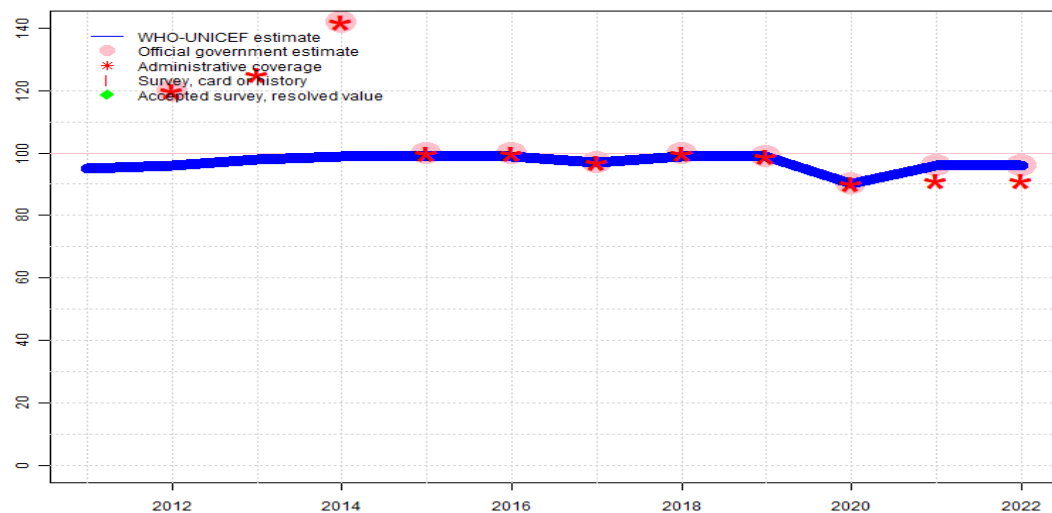
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

# United Arab Emirates - DTP3

ARE - DTP3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	95	96	98	99	99	99	97	99	99	90	96	96
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	NA	120	NA	142	100	100	97	100	99	90	96	96
Administrative	NA	120	125	142	100	100	97	100	99	90	91	91
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

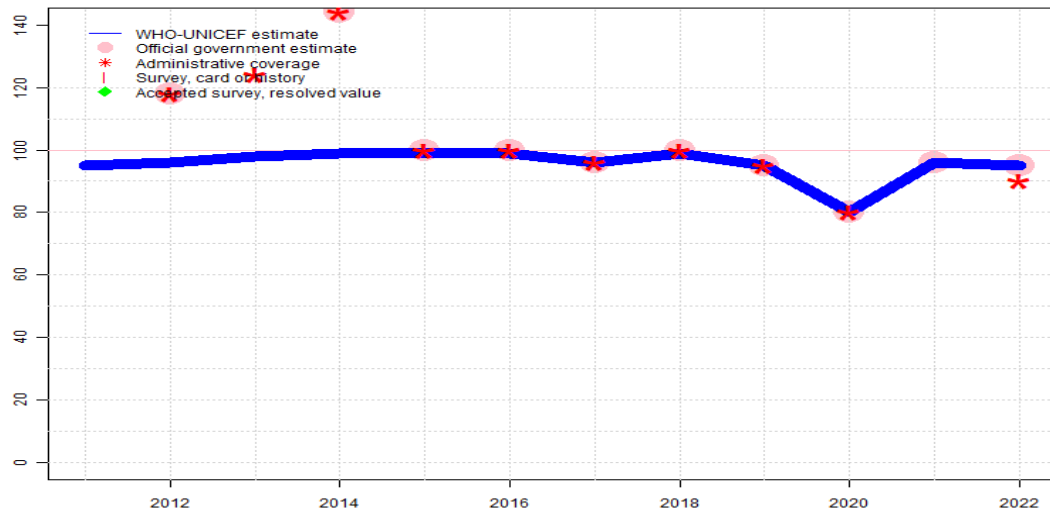
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-
- 2021: Estimate informed by reported data. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Estimate challenged by: D-
- 2019: Estimate informed by reported data. Estimate challenged by: D-
- 2018: Estimate informed by reported data. Estimate challenged by: D-
- 2017: Estimate informed by reported data. Estimate challenged by: D-
- 2016: Estimate informed by reported data. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. Estimate challenged by: D-
- 2015: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2014: Estimate informed by interpolation between reported data. Reported data excluded because 142 percent greater than 100 percent. Reported data excluded due to an increase from 125 percent to 142 percent with decrease 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2013: Estimate informed by interpolation between reported data. Reported data excluded because 125 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2012: Estimate informed by interpolation between reported data. Reported data excluded because 120 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Rise in reported coverage above 100 percent is attributed to the inclusion of foreign-born children in the numerator. Estimate challenged by: D-
- 2011: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

# United Arab Emirates - Pol3

ARE - Pol3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	95	96	98	99	99	99	96	99	95	80	96	95
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	NA	118	NA	144	100	100	96	100	95	80	96	95
Administrative	NA	118	124	144	100	100	96	100	95	80	NA	90
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

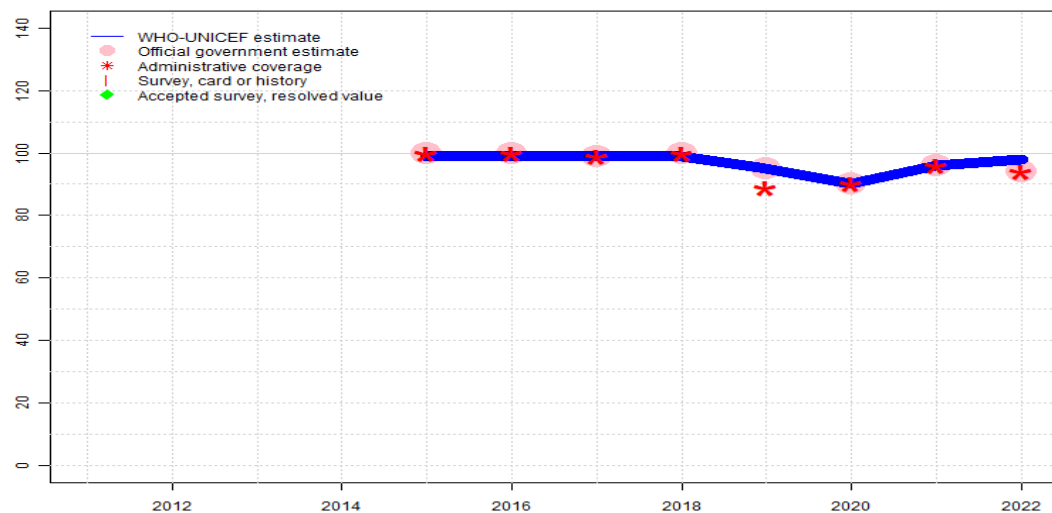
## Description:

- 2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-
- 2021: Estimate informed by reported data. . GoC=Assigned by working group. Consistency with other vaccine doses.
- 2020: Estimate informed by reported data. Decline likely related to COVID-19 pandemic. GoC=Assigned by working group. Consistency with other vaccine doses.
- 2019: Estimate informed by reported data. Estimate challenged by: D-
- 2018: Estimate informed by reported data. Estimate challenged by: D-
- 2017: Estimate informed by reported data. Estimate challenged by: D-
- 2016: Estimate informed by reported data. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. Estimate challenged by: D-
- 2015: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2014: Estimate informed by interpolation between reported data. Reported data excluded because 144 percent greater than 100 percent. Reported data excluded due to an increase from 124 percent to 144 percent with decrease 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2013: Estimate informed by interpolation between reported data. Reported data excluded because 124 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2012: Estimate informed by interpolation between reported data. Reported data excluded because 118 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Rise in reported coverage above 100 percent is attributed to the inclusion of foreign-born children in the numerator. Estimate challenged by: D-
- 2011: Estimate informed by interpolation between reported data. GoC=No accepted empirical data



# United Arab Emirates - IPV1

ARE - IPV1



## Description:

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

2022: Estimate informed by estimated DTP1 coverage. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-R-

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

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

2019: Estimate informed by reported data. Estimate challenged by: D-

2018: Estimate informed by reported data. Estimate challenged by: D-

2017: Estimate informed by reported data. Estimate challenged by: D-

2016: Estimate informed by reported data. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. Estimate challenged by: D-

2015: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Inactivated polio vaccine during 2010 using a sequential schedule with first two doses recommended at ages 2 and 4 months. Reporting started in 2015. Estimate challenged by: D-

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	99	99	99	99	95	90	96	98
Estimate GoC	NA	NA	NA	NA	●	●	●	●	●	●	●	●
Official	NA	NA	NA	NA	100	100	99	100	95	90	96	94
Administrative	NA	NA	NA	NA	100	100	99	100	89	90	96	94
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

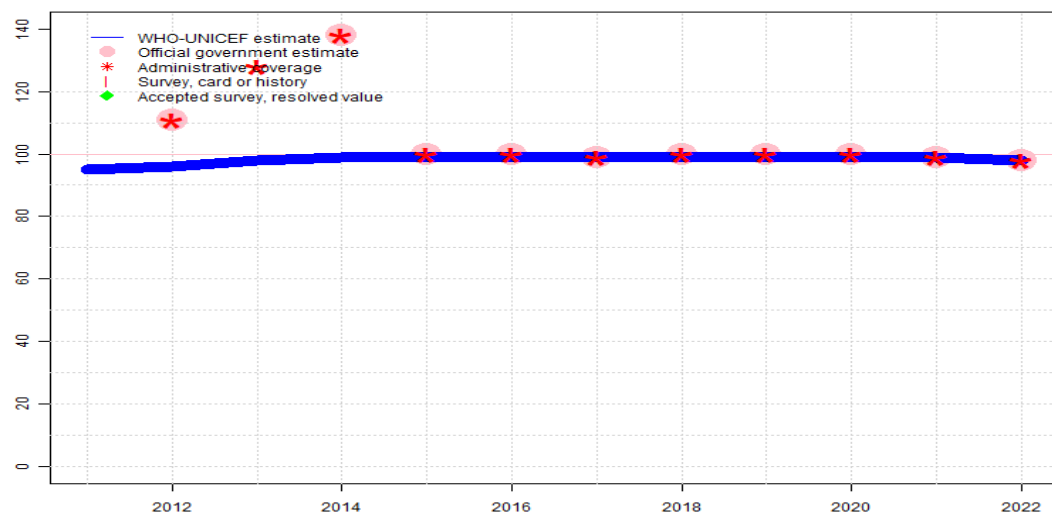
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

# United Arab Emirates - MCV1

ARE - MCV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	95	96	98	99	99	99	99	99	99	99	99	98
Estimate GoC	•	•	•	•	•	••	•	•	••	•	•	•
Official	NA	111	NA	138	100	100	99	100	100	100	99	98
Administrative	NA	111	128	138	100	100	99	100	100	100	99	98
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

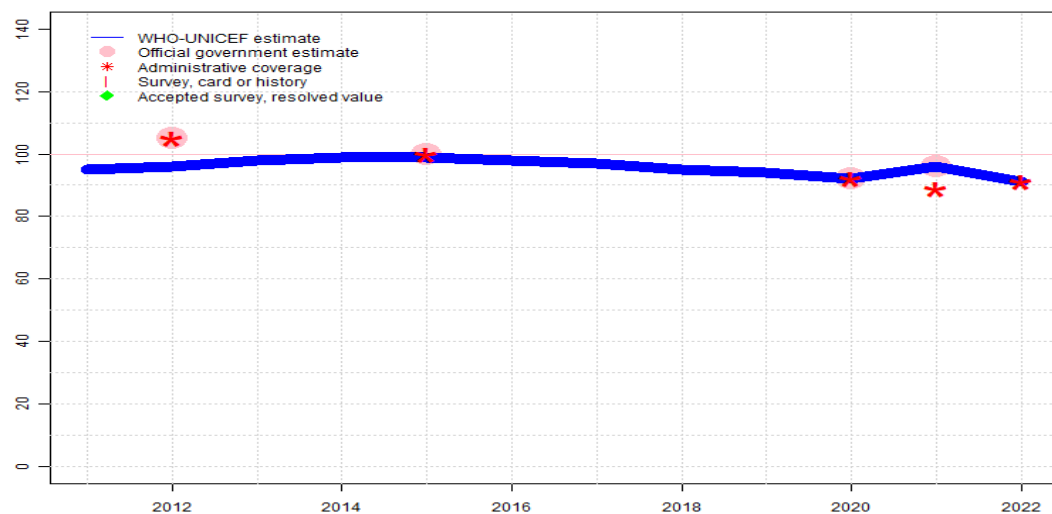
## Description:

- 2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-
- 2021: Estimate informed by reported data. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Estimate challenged by: D-
- 2019: Estimate informed by reported data. GoC=R+ D+
- 2018: Estimate informed by reported data. Estimate challenged by: D-
- 2017: Estimate informed by reported data. Estimate challenged by: D-
- 2016: Estimate informed by reported data. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. GoC=R+ D+
- 2015: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2014: Estimate informed by interpolation between reported data. Reported data excluded because 138 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2013: Estimate informed by interpolation between reported data. Reported data excluded because 128 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2012: Estimate informed by interpolation between reported data. Reported data excluded because 111 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Rise in reported coverage above 100 percent is attributed to the inclusion of foreign-born children in the numerator. Estimate challenged by: D-
- 2011: Estimate informed by interpolation between reported data. GoC=No accepted empirical data



# United Arab Emirates - MCV2

ARE - MCV2



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	95	96	98	99	99	98	97	95	94	92	96	91
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	NA	105	NA	NA	100	NA	NA	NA	NA	92	96	NA
Administrative	NA	105	NA	NA	100	NA	NA	NA	NA	92	89	91
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

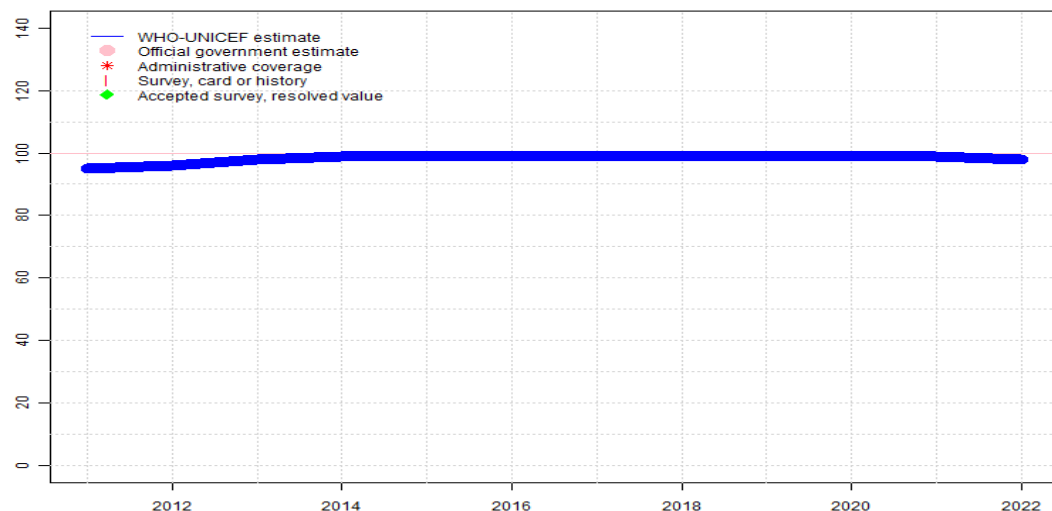
## Description:

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

- 2022: Estimate informed by reported administrative data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-
- 2021: Estimate informed by reported data. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Estimate challenged by: D-
- 2019: Estimate informed by interpolation between reported data. GoC=No accepted empirical data
- 2018: Estimate informed by interpolation between reported data. GoC=No accepted empirical data
- 2017: Estimate informed by interpolation between reported data. GoC=No accepted empirical data
- 2016: Estimate informed by interpolation between reported data. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. GoC=No accepted empirical data
- 2015: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2014: Estimate informed by interpolation between reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). GoC=No accepted empirical data
- 2013: Estimate informed by interpolation between reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). GoC=No accepted empirical data
- 2012: Estimate informed by interpolation between reported data. Reported data excluded because 105 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Rise in reported coverage above 100 percent is attributed to the inclusion of foreign-born children in the numerator. Estimate challenged by: D-
- 2011: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

# United Arab Emirates - RCV1

ARE - RCV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	95	96	98	99	99	99	99	99	99	99	99	98
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: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

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.

2022: Estimate based on estimated MCV1. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-

2021: Estimate based on estimated MCV1. Estimate challenged by: D-

2020: Estimate based on estimated MCV1. Estimate challenged by: D-

2019: Estimate based on estimated MCV1. GoC=R+ D+

2018: Estimate based on estimated MCV1. Estimate challenged by: D-

2017: Estimate based on estimated MCV1. Estimate challenged by: D-

2016: Estimate based on estimated MCV1. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. GoC=R+ D+

2015: Estimate based on estimated MCV1. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-

2014: Estimate based on estimated MCV1. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-

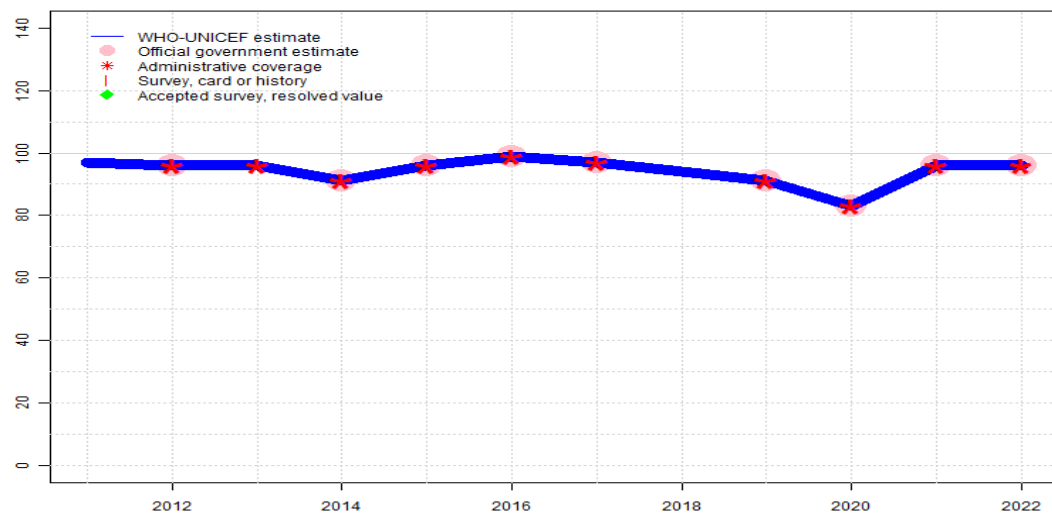
2013: Estimate based on estimated MCV1. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-

2012: Estimate based on estimated MCV1. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-

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

# United Arab Emirates - HepBB

ARE - HepBB



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	97	96	96	91	96	99	97	94	91	83	96	96
Estimate GoC	●	●	●	●	●	●	●	●	●	●	●	●
Official	NA	96	NA	91	96	99	97	NA	91	83	96	96
Administrative	NA	96	96	91	96	99	97	NA	91	83	96	96
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

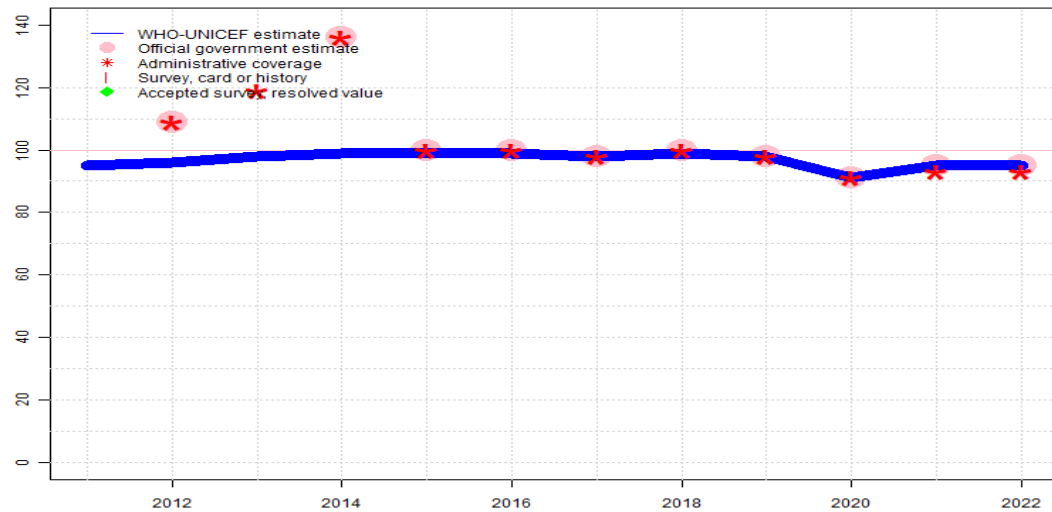
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-
- 2021: Estimate informed by reported data. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Estimate challenged by: D-
- 2019: Estimate informed by reported data. Estimate challenged by: D-
- 2018: Estimate informed by interpolation between reported data. GoC=No accepted empirical data
- 2017: Estimate informed by reported data. Estimate challenged by: D-
- 2016: Estimate informed by reported data. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. Estimate challenged by: D-
- 2015: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2014: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2013: Estimate informed by reported administrative data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2012: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2011: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

# United Arab Emirates - HepB3

ARE - HepB3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	95	96	98	99	99	99	98	99	98	91	95	95
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	NA	109	NA	136	100	100	98	100	98	91	95	95
Administrative	NA	109	119	136	100	100	98	100	98	91	93	93
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

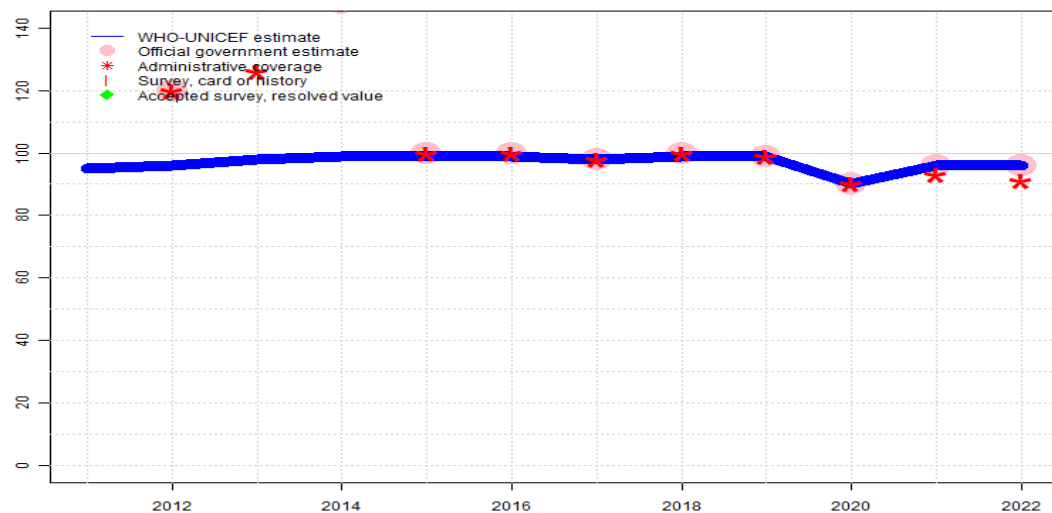
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

## Description:

- 2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-
- 2021: Estimate informed by reported data. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Estimate challenged by: D-
- 2019: Estimate informed by reported data. Estimate challenged by: D-
- 2018: Estimate informed by reported data. Estimate challenged by: D-
- 2017: Estimate informed by reported data. Estimate challenged by: D-
- 2016: Estimate informed by reported data. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. Estimate challenged by: D-
- 2015: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2014: Estimate informed by interpolation between reported data. Reported data excluded because 136 percent greater than 100 percent. Reported data excluded due to an increase from 119 percent to 136 percent with decrease 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2013: Estimate informed by interpolation between reported data. Reported data excluded because 119 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2012: Estimate informed by interpolation between reported data. Reported data excluded because 109 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Rise in reported coverage above 100 percent is attributed to the inclusion of foreign-born children in the numerator. Estimate challenged by: D-
- 2011: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

# United Arab Emirates - Hib3

ARE - Hib3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	95	96	98	99	99	99	98	99	99	90	96	96
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	NA	120	NA	148	100	100	98	100	99	90	96	96
Administrative	NA	120	126	148	100	100	98	100	99	90	93	91
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

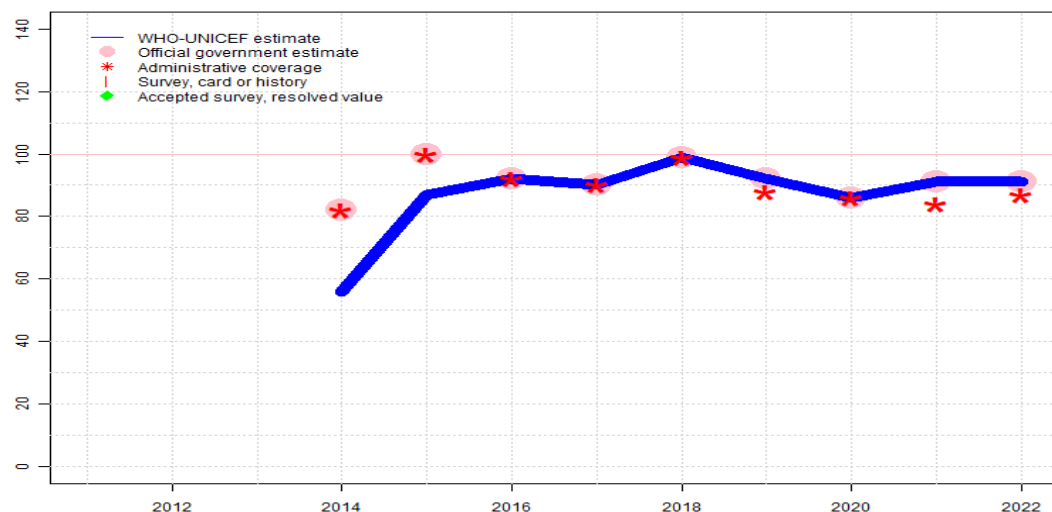
## Description:

- 2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-
- 2021: Estimate informed by reported data. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Estimate challenged by: D-
- 2019: Estimate informed by reported data. Estimate challenged by: D-
- 2018: Estimate informed by reported data. Estimate challenged by: D-
- 2017: Estimate informed by reported data. Estimate challenged by: D-
- 2016: Estimate informed by reported data. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. Estimate challenged by: D-
- 2015: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2014: Estimate informed by interpolation between reported data. Reported data excluded because 148 percent greater than 100 percent. Reported data excluded due to an increase from 126 percent to 148 percent with decrease 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2013: Estimate informed by interpolation between reported data. Reported data excluded because 126 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2012: Estimate informed by interpolation between reported data. Reported data excluded because 120 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Rise in reported coverage above 100 percent is attributed to the inclusion of foreign-born children in the numerator. Estimate challenged by: D-
- 2011: Estimate informed by interpolation between reported data. GoC=No accepted empirical data



# United Arab Emirates - RotaC

ARE - RotaC



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	56	87	92	90	99	92	86	91	91
Estimate GoC	NA	NA	NA	•	•	•	•	•	•	•	•	•
Official	NA	NA	NA	82	100	92	90	99	92	86	91	91
Administrative	NA	NA	NA	82	100	92	90	99	88	86	84	87
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

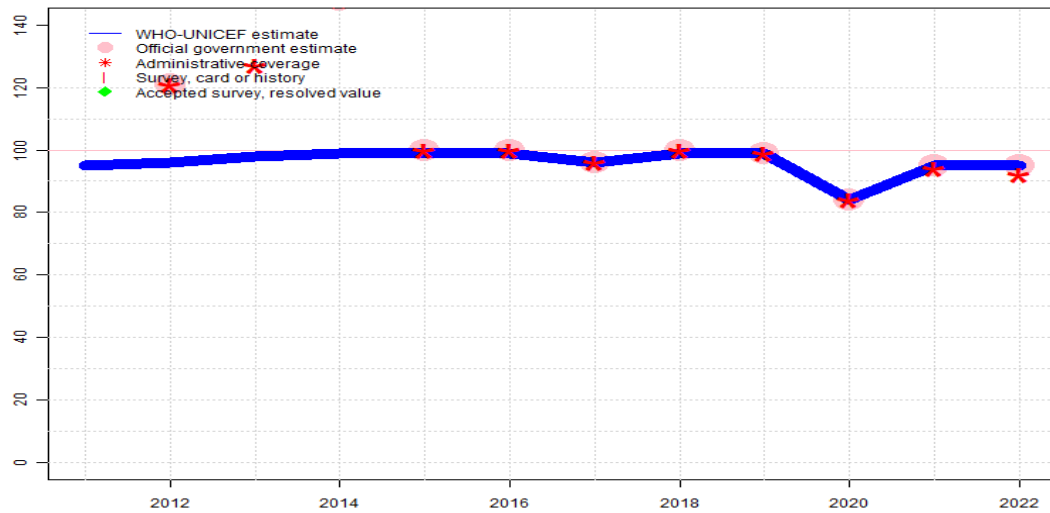
## Description:

- 2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-
- 2021: Estimate informed by reported data. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Estimate challenged by: D-
- 2019: Estimate informed by reported data. Estimate challenged by: D-
- 2018: Estimate informed by reported data. Estimate challenged by: D-
- 2017: Estimate informed by reported data. Estimate challenged by: D-
- 2016: Estimate informed by reported data. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. Estimate challenged by: D-
- 2015: Programme reports 100 percent coverage in 87 percent of the national target population. Estimate is based on annualized coverage among national birth cohort. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-R-
- 2014: Rotavirus vaccine introduced during 2014. Reported coverage of 82 percent achieved in 52 percent of national target population. Estimate is based on annualized coverage among national birth cohort. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-R-



# United Arab Emirates - PcV3

ARE - PcV3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	95	96	98	99	99	99	96	100	99	84	95	95
Estimate GoC	•	•	•	•	•	•	•	•	••	•	•	•
Official	NA	121	NA	148	100	100	96	100	99	84	95	95
Administrative	NA	121	127	148	100	100	96	100	99	84	94	92
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.
- Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-], challenges the estimate.
- There are no directly supporting data; or data from at least one source; [R-], [D-], [S-]; challenge the estimate.

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

## Description:

- 2022: Estimate informed by reported data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-
- 2021: Estimate informed by reported data. Estimate challenged by: D-
- 2020: Estimate informed by reported data. Decline likely related to COVID-19 pandemic. Estimate challenged by: D-
- 2019: Estimate informed by reported data. GoC=R+ D+
- 2018: Estimate informed by reported data. Estimate challenged by: D-
- 2017: Estimate informed by reported data. Estimate challenged by: D-
- 2016: Estimate informed by reported data. Programme reports an unexplained increase in the target population size from 2015 to 2016 while coverage remained similar. Estimate challenged by: D-
- 2015: Estimate informed by reported data. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2014: Estimate informed by interpolation between reported data. Reported data excluded because 148 percent greater than 100 percent. Reported data excluded due to an increase from 127 percent to 148 percent with decrease 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2013: Estimate informed by interpolation between reported data. Reported data excluded because 127 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Estimate challenged by: D-
- 2012: Estimate informed by interpolation between reported data. Reported data excluded because 121 percent greater than 100 percent. Recent trends in reported data on target population and number of children vaccinated, along with exceptionally high reported coverage, appear to suggest that the reported data are not reflective of all areas of the country (i.e., partial reporting). Rise in reported coverage above 100 percent is attributed to the inclusion of foreign-born children in the numerator. Estimate challenged by: D-
- 2011: Estimate informed by interpolation between reported data. GoC=No accepted empirical data

Further information and estimates for previous years are available at:

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

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