Slovakia: WHO and UNICEF estimates of immunization coverage: 2021 revision

BCG

DTP1

DTP3

Pol3

MCV1

HepB3

Hib3

RotaC

PcvV3

July 8, 2022; page 1

WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2023

data received as of July 7, 2022
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:

* 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 (enumerator data) and reported target population data (denominator data).

SURVEY coverage: Based on 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.

OFFICIAL coverage: Estimated coverage reported by national authorities that reflects their best judgement, the most likely estimate available and a consideration of possible biases in available data.

MCV1: percentage of surviving infants who received the first dose of measles containing vaccine. In countries where the national schedule recommends the first 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 first dose of MCV as recommended.

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

POL3: 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 POL3 is not taken into consideration nor are the data represented in the accompanying graph and data table.

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

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

- Three dots (★★★) 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.
- Two dots (★★) Estimate is supported by at least one data source; [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-]; challenges the estimate.
- One dot (★) 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.

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Description:

2012: Estimate based on coverage reported by national government. BCG no longer recommended in the national schedule after 2012. GoC=R+ D+
2011: Estimate based on coverage reported by national government. GoC=R+ D+
2010: Estimate based on coverage reported by national government. GoC=R+ D+

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WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2023

Data received as of July 7, 2022
The WHO and UNICEF estimates of national immunization coverage (wunic) 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:

2021: Estimate is based on reported coverage. Reported target population reflects children officially registered in the health care system. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+

2020: Reported data calibrated to 2019 and 2021 levels. Official estimates reflect data for children aged two years. Therefore, there is no empirical data yet to assess whether the COVID-19 pandemic has affected coverage among young children. Estimate of 98 percent changed from previous revision value of 99 percent. GoC=No accepted empirical data

2019: Estimate of 99 percent assigned by working group. Estimate is based on extrapolation from last reported data point. Reported target population reflects children registered in the health care system. GoC=No accepted empirical data

2018: Reported data calibrated to 1997 and 2019 levels. GoC=No accepted empirical data

2017: Reported data calibrated to 1997 and 2019 levels. Results of a 2017 facility-based survey are available at www.uvszsr.sk. Programme reports district-level vaccine stock-outs. GoC=No accepted empirical data

2016: Reported data calibrated to 1997 and 2019 levels. GoC=No accepted empirical data

2015: Reported data calibrated to 1997 and 2019 levels. GoC=No accepted empirical data

2014: Reported data calibrated to 1997 and 2019 levels. GoC=No accepted empirical data

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2012: Reported data calibrated to 1997 and 2019 levels. GoC=No accepted empirical data

2011: Reported data calibrated to 1997 and 2019 levels. GoC=No accepted empirical data

2010: Reported data calibrated to 1997 and 2019 levels. GoC=No accepted empirical data

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**Tabular Data:**

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### Description:

#### 2021:
Estimate based on coverage reported by national government. Reported target population reflects children officially registered in the health care system. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+

#### 2020:
Estimate based on coverage reported by national government. Official estimates reflect data for children aged two years. Therefore, there is no empirical data yet to assess whether the COVID-19 pandemic has affected coverage among young children. GoC=R+ D+

#### 2019:
Estimate based on coverage reported by national government. Reported target population reflects children registered in the health care system. GoC=R+ D+

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

#### 2017:
Estimate based on coverage reported by national government. Results of a 2017 facility-based survey are available at www.uvzsr.sk. Programme reports district-level vaccine stock-outs. GoC=R+ D+

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

#### 2015:
Estimate based on coverage reported by national government. Programme reports 2-3 month district level stock-out of hexavalent DTP-HepB-Hib-IPV vaccine. GoC=R+ D+

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

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

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

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

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

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### Description:

**2021:** Estimate based on coverage reported by national government. Reported target population reflects children officially registered in the health care system. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+

**2020:** Estimate based on coverage reported by national government. Official estimates reflect data for children aged two years. Therefore, there is no empirical data yet to assess whether the COVID-19 pandemic has affected coverage among young children. GoC=R+ D+

**2019:** Estimate based on coverage reported by national government. Reported target population reflects children registered in the health care system. GoC=R+ D+

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

**2017:** Estimate based on coverage reported by national government. Results of a 2017 facility-based survey are available at www.uvzsr.sk. Programme reports district-level vaccine stock-outs. GoC=R+ D+

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

**2015:** Estimate based on coverage reported by national government. Programme reports 2-3 month district level stock-out of hexavalent DTP-HepB-Hib-IPV vaccine. GoC=R+ D+

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

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

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

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

**2010:** Estimate based on coverage reported by national government. Estimate challenged by: D-
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.

### 2021:
Estimate is based on estimated DTP1 coverage. Reported target population reflects children officially registered in the health care system. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. Estimate challenged by: R-

### 2020:
Estimate is based on estimated DTP1 coverage. Official estimates reflect data for children aged two years. Therefore, there is no empirical data yet to assess whether the COVID-19 pandemic has affected coverage among young children. Estimate of 97 percent changed from previous revision value of 99 percent. GoC=No accepted empirical data

### 2019:
Estimate is based on estimated DTP1 coverage. Reported target population reflects children registered in the health care system. Estimate of 97 percent changed from previous revision value of 99 percent. GoC=No accepted empirical data

### 2018:
Estimate is based on estimated DTP1 coverage. Estimate of 97 percent changed from previous revision value of 99 percent. GoC=No accepted empirical data

### 2017:
Estimate is based on estimated DTP1 coverage. Results of a 2017 facility-based survey are available at www.uvzsr.sk. Programme reports district-level vaccine stock-outs. Estimate of 98 percent changed from previous revision value of 99 percent. GoC=No accepted empirical data

### 2016:
Estimate is based on estimated DTP1 coverage. Estimate of 98 percent changed from previous revision value of 99 percent. GoC=No accepted empirical data

### 2015:
Inactivated polio vaccine administered as part of DTP-HepB-Hib-IPV combination vaccine. Estimate is based on estimated DTP1 coverage. Estimate of 98 percent changed from previous revision value of 99 percent. GoC=No accepted empirical data

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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).
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Description:

2021: Estimate based on coverage reported by national government. Reported target population reflects children officially registered in the health care system. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+

2020: Estimate based on coverage reported by national government. Official estimates reflect data for children aged two years. Therefore, there is no empirical data yet to assess whether the COVID-19 pandemic has affected coverage among young children. GoC=R+

2019: Estimate based on coverage reported by national government. Reported target population reflects children registered in the health care system. GoC=R+ D+

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

2017: Estimate based on coverage reported by national government. Results of a 2017 facility-based survey are available at www.uvzs.r.sk. Programme reports district-level vaccine stock-outs. GoC=R+ D+

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

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

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

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

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

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

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

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Description:

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

2021: Estimate based on coverage reported by national government. Reported target population reflects children officially registered in the health care system. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+

2020: Estimate based on coverage reported by national government. Official estimates reflect data for children aged two years. Therefore, there is no empirical data yet to assess whether the COVID-19 pandemic has affected coverage among young children. GoC=R+

2019: Estimate based on coverage reported by national government. Reported target population reflects children registered in the health care system. Estimate challenged by: D-

2018: Estimate based on coverage reported by national government. Estimate challenged by: D-

2017: Estimate based on coverage reported by national government. Results of a 2017 facility-based survey are available at www.uvzsr.sk. Programme reports district-level vaccine stock-outs. Estimate challenged by: D-

2016: Estimate based on coverage reported by national government. Estimate challenged by: D-

2015: Estimate based on coverage reported by national government. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

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

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

July 8, 2022; page 9	WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2023	data received as of July 7, 2022
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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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.

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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Slovakia - HepBB

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- - -

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The WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2023 data received as of July 7, 2022
The WHO and UNICEF estimates of national immunization coverage (wunicef) 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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### Description:

**2021: Estimate based on coverage reported by national government.** Reported target population reflects children officially registered in the health care system. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality independent empirical assessment to confirm reported levels of coverage. GoC=R+ D+

**2020: Estimate based on coverage reported by national government.** Official estimates reflect data for children aged two years. Therefore, there is no empirical data yet to assess whether the COVID-19 pandemic has affected coverage among young children. GoC=R+ D+

**2019: Estimate based on coverage reported by national government.** Reported target population reflects children registered in the health care system. GoC=R+ D+

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

**2017: Estimate based on coverage reported by national government.** Results of a 2017 facility-based survey are available at www.uvzsr.sk. GoC=R+ D+

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

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

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

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

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

**2011: Estimate based on coverage reported by national government.** Estimate challenged by: D-

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### Table:

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WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2023 data received as of July 7, 2022
Further information and estimates for previous years are available at:
https://data.unicef.org/topic/child-health/immunization/
https://immunizationdata.who.int/listing.html