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

- BCG
- DTP1
- DTP3
- Pol3
- MCV1
- HepB3
- Hib3
- RotaC
- Pcv3

Data received as of July 6, 2021.
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

OFFICIAL coverage: estimated coverage reported by national authorities that reflects their

ADMINISTRATIVE coverage: the WHO and UNICEF estimates of national immunization coverage. For methods see:

SURVEY coverage: survey-based estimates or other data sources or adjustments. Approaches to determine

OFFICIAL coverage may differ across countries.

DATA SOURCES.

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.

PcvV3: 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 PcvV prior to the 1st birthday.

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

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

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 coverage reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Estimate challenged by: D-

2019: Estimate based on coverage reported by national government. GoC=R+ D+

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

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

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

2015: Estimate based on coverage reported by national government. Programme reports one month stock-out. Reported data are provisional. GoC=R+ S+ D+

2014: Estimate based on coverage reported by national government. Declines in reported coverage during 2014 reflect incomplete reporting and disruptions in routine immunization service delivery resulting from human resource constraints for service delivery and inadequate funding to service delivering NGOs. Programme reports five month stock-out of BCG vaccine at national level. GoC=R+ S+ D+

2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+ D+

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+ D+

2011: Estimate based on coverage reported by national government. Decline in coverage is consistent with patterns in coverage for other antigens. GoC=R+ S+ D+

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

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

### Data Table:

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimate</th>
<th>Official</th>
<th>Administrative</th>
<th>Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
<tr>
<td>2019</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
<tr>
<td>2018</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
<tr>
<td>2017</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
<tr>
<td>2016</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
<tr>
<td>2011</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
<tr>
<td>2010</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
<tr>
<td>2009</td>
<td>93</td>
<td>100</td>
<td>91</td>
<td>NA</td>
</tr>
</tbody>
</table>

July 8, 2021; page 3 WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2022 data received as of July 6, 2021
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 coverage reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Estimate challenged by: D-

2019: Estimate based on coverage reported by national government. GoC=R+ D+

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

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

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

2015: Estimate based on coverage reported by national government. Programme reports two month stock-out. Reported data are provisional and suggest recovery from the stock-out during 2014. GoC=R+ S+ D+

2014: Estimate based on coverage reported by national government. Declines in reported coverage during 2014 reflect incomplete reporting and disruptions in routine immunization service delivery resulting from human resource constraints for service delivery and inadequate funding to service delivering NGOs. Programme reports nine month stock-out of DTP containing vaccine at national level. GoC=R+ S+ D+

2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 98 percent based on 1 survey(s). GoC=R+ S+ D+

2012: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 99 percent based on 1 survey(s). Reported data excluded because 103 percent greater than 100 percent. GoC=R+ S+ D+

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

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

2009: Estimate based on coverage reported by national government. GoC=R+ S+ D+
Guatemala - DTP3

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 coverage reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Estimate challenged by: D-
2019: Estimate based on coverage reported by national government. GoC=R+ D+
2018: Estimate based on coverage reported by national government. GoC=R+ D+
2017: Estimate based on coverage reported by national government. GoC=R+ D+
2016: Estimate based on coverage reported by national government. GoC=R+ D+
2015: Estimate based on coverage reported by national government. Programme reports two month stock-out. Reported data are provisional. Estimate challenged by: S-
2014: Estimate based on coverage reported by national government. Declines in reported coverage during 2014 reflect incomplete reporting and disruptions in routine immunization service delivery resulting from human resource constraints for service delivery and inadequate funding to service delivering NGOs. Programme reports nine month stock-out of DTP containing vaccine at national level. Estimate challenged by: S-
2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 86 percent based on 1 survey(s). Guatemala Demographic and Health Survey 2014-2015 card or history results of 85 percent modified for recall bias to 86 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 90 percent and 3rd dose card only coverage of 79 percent. GoC=R+ S+ D+
2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Guatemala Demographic and Health Survey 2014-2015 card or history results of 93 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 89 percent and 3rd dose card only coverage of 85 percent. GoC=R+ S+ D+
2011: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2010: Estimate based on coverage reported by national government. GoC=R+ S+ D+
2009: Estimate based on coverage reported by national government. GoC=R+ S+ 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.

- 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 coverage reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Estimate challenged by: D-

2019: Estimate based on coverage reported by national government. GoC=R+ D+

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

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

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

2015: Estimate based on coverage reported by national government. Programme recovered from prior year stock-out. Reported data are provisional. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. Declines in reported coverage during 2014 reflect incomplete reporting and disruptions in routine immunization service delivery resulting from human resource constraints for service delivery and inadequate funding to service delivering NGOs. Programme reports six month stock-out of polio vaccine at national level. Estimate challenged by: S-

2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). Guatemala Demographic and Health Survey 2014-2015 card or history results of 82 percent modified for recall bias to 83 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 90 percent and 3rd dose card only coverage of 76 percent. Estimate challenged by: S-

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Guatemala Demographic and Health Survey 2014-2015 card or history results of 93 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 89 percent and 3rd dose card only coverage of 85 percent. Estimate challenged by: S-

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

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

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

2020: Estimate based on coverage reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Estimate challenged by: D-

2019: Estimate based on coverage reported by national government. GoC=R+ D+

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

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

2016: Estimate based on coverage reported by national government. Inactivated polio vaccine introduced in January 2016. GoC=R+ 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.

### Estimate

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>91</td>
<td>88</td>
<td>94</td>
<td>90</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>Estimate GoC</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>* *</td>
<td>* *</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Official</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>91</td>
<td>88</td>
<td>94</td>
<td>90</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>Administrative</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Survey</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

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.
The WHO and UNICEF estimates of national immunization coverage (vaccine) 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.

### Guatemala - MCV1

#### Description:

2020: Estimate based on coverage reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Estimate challenged by: D-

2019: Estimate based on coverage reported by national government. GoC=R+ D+

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

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

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

2015: Estimate based on interpolation between data reported by national government. Reported data excluded. Reported data suggests increase in coverage following supply disruptions in 2014 despite report of two month national level stock-out during 2015. Reported coverage likely reflect doses delivered to children beyond the target age range. Reported data excluded due to an increase from 67 percent to 99 percent with decrease 86 percent. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. Declines in reported coverage during 2014 reflect incomplete reporting and disruptions in routine immunization service resulting from human resource constraints for service delivery and inadequate funding to service delivering NGOs. Programme reports seven month stock-out of measles containing vaccine at national level. Estimate challenged by: S-

2013: Estimate based on coverage reported by national government. Guatemala Demographic and Health Survey 2014-2015 results ignored by working group. Survey results likely underestimate actual coverage given survey cohort and recommended age at vaccination for MCV1. GoC=R+ S+ D+

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). GoC=R+ S+ D+

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

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

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

#### Table:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO-UNICEF estimate</td>
<td>92</td>
<td>93</td>
<td>89</td>
<td>93</td>
<td>85</td>
<td>67</td>
<td>77</td>
<td>86</td>
<td>86</td>
<td>87</td>
<td>90</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Estimate GoC</td>
<td>•••</td>
<td>•••</td>
<td>•••</td>
<td>•••</td>
<td>•••</td>
<td>•••</td>
<td>•••</td>
<td>•••</td>
<td>•••</td>
<td>••</td>
<td>••</td>
<td>••</td>
<td></td>
</tr>
<tr>
<td>Official</td>
<td>92</td>
<td>93</td>
<td>89</td>
<td>93</td>
<td>85</td>
<td>67</td>
<td>77</td>
<td>86</td>
<td>86</td>
<td>87</td>
<td>90</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td>92</td>
<td>93</td>
<td>89</td>
<td>93</td>
<td>85</td>
<td>67</td>
<td>77</td>
<td>86</td>
<td>86</td>
<td>87</td>
<td>90</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Survey</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>88</td>
<td>63</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

July 8, 2021; page 8

WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2022

data received as of July 6, 2021
Guatemala - MCV2

Description:

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

2020: Estimate based on coverage reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Estimate challenged by: D-

2019: Estimate based on coverage reported by national government. GoC=R+ D+

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

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

2016: Estimate based on coverage reported by national government. Second dose of measles containing vaccine introduced in January 2016. GoC=R+ 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.

- 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.

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.

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.
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 accompanying graph and data table.

2020: Estimate based on estimated MCV1. Programme reports a two month stock-out of AD syringes at the national level. Estimate challenged by: D-

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

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

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

2016: Estimate based on estimated MCV1. GoC=R+ D+

2015: Estimate based on estimated MCV1. Estimate challenged by: D-

2014: Estimate based on estimated MCV1. Declines in reported coverage during 2014 reflect incomplete reporting and disruptions in routine immunization service delivery resulting from human resource constraints for service delivery and inadequate funding to service delivering NGOs.. Estimate challenged by: S-

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

2012: Estimate based on estimated MCV1. GoC=R+ S+ D+

2011: Estimate based on estimated MCV1. GoC=R+ S+ D+

2010: Estimate based on estimated MCV1. GoC=R+ S+ D+

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

July 8, 2021; page 10

WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2022

data received as of July 6, 2021
Guatemala - HepBB

Description:

2020: Estimate based on extrapolation from data reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Programme reports a one month vaccine stock-out at national level. GoC=No accepted empirical data

2019: Estimate based on extrapolation from data reported by national government. GoC=No accepted empirical data

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

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

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

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

2014: Estimate based on coverage reported by national government. Declines in reported coverage during 2014 reflect incomplete reporting and disruptions in routine immunization service delivery resulting from human resource constraints for service delivery and inadequate funding to service delivering NGOs. 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+

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.
Guatemala - HepB3

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.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Official</td>
<td>92</td>
<td>94</td>
<td>NA</td>
<td>96</td>
<td>85</td>
<td>73</td>
<td>74</td>
<td>80</td>
<td>82</td>
<td>86</td>
<td>85</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>Administrative</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>93</td>
<td>85</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Description:

2020: Estimate based on coverage reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Estimate challenged by: D-

2019: Estimate based on coverage reported by national government. Estimate of 85 percent changed from previous revision value of 86 percent. GoC=R+

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

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

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

2015: Estimate based on coverage reported by national government. Programme reports two month stock-out. Reported data are provisional. Estimate challenged by: S-

2014: Estimate based on coverage reported by national government. Declines in reported coverage during 2014 reflect incomplete reporting and disruptions in routine immunization service delivery resulting from human resource constraints for service delivery and inadequate funding to service delivering NGOs. Programme reports nine month stock-out of DTP containing vaccine at national level. Estimate challenged by: S-

2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 86 percent based on 1 survey(s). Guatemala Demographic and Health Survey 2014-2015 card or history results of 85 percent modified for recall bias to 86 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 90 percent and 3rd dose card only coverage of 79 percent. Programme reports a five months stock-out at national level. GoC=R+ S+ D+

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Guatemala Demographic and Health Survey 2014-2015 card or history results of 93 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 89 percent and 3rd dose card only coverage of 85 percent. GoC=R+ S+ D+

2011: Estimate based on reported administrative data. GoC=R+ S+ D+

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

2009: Estimate based on coverage reported by national government. GoC=R+ D+
Guatemala - Hib3

The WHO and UNICEF estimates of national immunization coverage (uWenic) 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 coverage reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Estimate challenged by: D-

2019: Estimate based on coverage reported by national government. Estimate of 85 percent changed from previous revision value of 86 percent. GoC=R+

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

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

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

2015: Estimate based on coverage reported by national government. Programme reports two month stock-out. Reported data are provisional. Estimate challenged by: S-

2014: Estimate based on coverage reported by national government. Declines in reported coverage during 2014 reflect incomplete reporting and disruptions in routine immunization service delivery resulting from human resource constraints for service delivery and inadequate funding to service delivering NGOs. Programme reports nine month stock-out of DTP containing vaccine at national level. Estimate challenged by: S-

2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 86 percent based on 1 survey(s). Guatemala Demographic and Health Survey 2014-2015 card or history results of 85 percent modified for recall bias to 86 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 90 percent and 3rd dose card only coverage of 79 percent. GoC=R+ S+ D+

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). Guatemala Demographic and Health Survey 2014-2015 card or history results of 93 percent modified for recall bias to 95 percent based on 1st dose card or history coverage of 99 percent, 1st dose card only coverage of 89 percent and 3rd dose card only coverage of 85 percent. GoC=R+ S+ D+

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

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

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimate</th>
<th>Official</th>
<th>Administrative</th>
<th>Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>92</td>
<td>94</td>
<td>85</td>
<td>NA</td>
</tr>
<tr>
<td>2019</td>
<td>92</td>
<td>94</td>
<td>85</td>
<td>NA</td>
</tr>
<tr>
<td>2018</td>
<td>92</td>
<td>94</td>
<td>85</td>
<td>NA</td>
</tr>
<tr>
<td>2017</td>
<td>92</td>
<td>94</td>
<td>85</td>
<td>NA</td>
</tr>
<tr>
<td>2016</td>
<td>92</td>
<td>94</td>
<td>85</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>92</td>
<td>94</td>
<td>85</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>92</td>
<td>94</td>
<td>88</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>92</td>
<td>94</td>
<td>85</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>92</td>
<td>94</td>
<td>85</td>
<td>NA</td>
</tr>
<tr>
<td>2011</td>
<td>92</td>
<td>94</td>
<td>85</td>
<td>NA</td>
</tr>
<tr>
<td>2010</td>
<td>92</td>
<td>94</td>
<td>85</td>
<td>NA</td>
</tr>
<tr>
<td>2009</td>
<td>92</td>
<td>94</td>
<td>85</td>
<td>NA</td>
</tr>
</tbody>
</table>
Guatemala - RotaC

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 coverage reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Estimate challenged by: D-

2019: Estimate based on coverage reported by national government. GoC=R+ D+

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

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

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

2015: Estimate based on coverage reported by national government. Reported data suggests increase in coverage despite report of one month national level stock-out. Reported data are provisional. GoC=R+ S+ D+

2014: Estimate based on coverage reported by national government. Declines in reported coverage during 2014 reflect incomplete reporting and disruptions in routine immunization service delivery resulting from human resource constraints for service delivery and inadequate funding to service delivering NGOs. Programme reports three and a half month stock-out of rotavirus vaccine at national level.. Estimate challenged by: S-

2013: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). GoC=R+ S+ D+

2012: Estimate based on reported data. Guatemala Demographic and Health Survey 2014-2015 results ignored by working group. Survey results may not reflect coverage during introduction period. GoC=R+ S+ D+

2011: Estimate based on reported data. Estimate challenged by: D-S-

2010: Estimate based on reported data. Rotavirus vaccine introduced in 2010. GoC=R+ 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.
### Guatemala - PcV3

#### Description:

2020: Estimate based on coverage reported by national government. Programme reports a two month stock-out of AD syringes at the national level. Programme reports a two month vaccine stock-out at national level. Estimate challenged by: D-

2019: Estimate based on coverage reported by national government. GoC=R+ D+

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

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

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

2015: Estimate based on coverage reported by national government. Programme reports two month stock-out. Reported data are provisional. GoC=R+ D+

2014: Estimate based on coverage reported by national government. Declines in reported coverage during 2014 reflect incomplete reporting and disruptions in routine immunization service delivery resulting from human resource constraints for service delivery and inadequate funding to service delivering NGOs. Programme reports five month stock-out of PcV vaccine at national level. GoC=R+ D+

2013: Estimate based on coverage reported by national government. Pneumococcal conjugate vaccine introduced during November 2012. Reporting started during 2013. GoC=R+ D+

---

<table>
<thead>
<tr>
<th>Year</th>
<th>Official</th>
<th>Administrative</th>
<th>Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
</tr>
<tr>
<td>2019</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
</tr>
<tr>
<td>2018</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
</tr>
<tr>
<td>2017</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
</tr>
<tr>
<td>2016</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
</tr>
<tr>
<td>2015</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
<td>[R+][D+]</td>
</tr>
</tbody>
</table>

---

The WHO and UNICEF estimates of national immunization coverage (wuemic) 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.
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Confirmation method</th>
<th>Coverage Age cohort</th>
<th>Sample</th>
<th>Cards seen</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>C or H &lt;12 months</td>
<td>97.9</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>BCG</td>
<td>Card</td>
<td>89.5</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>BCG</td>
<td>Card or History</td>
<td>98</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>DTP1</td>
<td>C or H &lt;12 months</td>
<td>97.1</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>DTP1</td>
<td>Card</td>
<td>89.5</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>DTP1</td>
<td>Card or History</td>
<td>97.5</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>DTP3</td>
<td>C or H &lt;12 months</td>
<td>79</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>DTP3</td>
<td>Card</td>
<td>78.6</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>DTP3</td>
<td>Card or History</td>
<td>84.6</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>HepB1</td>
<td>C or H &lt;12 months</td>
<td>97.1</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>HepB1</td>
<td>Card</td>
<td>89.5</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>HepB1</td>
<td>Card or History</td>
<td>97.5</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>HepB3</td>
<td>C or H &lt;12 months</td>
<td>79</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>HepB3</td>
<td>Card</td>
<td>78.6</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>HepB3</td>
<td>Card or History</td>
<td>84.6</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>Hib1</td>
<td>C or H &lt;12 months</td>
<td>97.1</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>Hib1</td>
<td>Card</td>
<td>89.5</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>Hib1</td>
<td>Card or History</td>
<td>97.5</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>Hib3</td>
<td>C or H &lt;12 months</td>
<td>79</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>Hib3</td>
<td>Card</td>
<td>78.6</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>Hib3</td>
<td>Card or History</td>
<td>84.6</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>MCV1</td>
<td>C or H &lt;18 months</td>
<td>60.9</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>MCV1</td>
<td>Card</td>
<td>57.9</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>MCV1</td>
<td>Card or History</td>
<td>63.2</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>PCV1</td>
<td>C or H &lt;12 months</td>
<td>87</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>PCV1</td>
<td>Card</td>
<td>82.4</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>PCV1</td>
<td>Card or History</td>
<td>88.6</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>Pol1</td>
<td>C or H &lt;12 months</td>
<td>97.1</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>Pol1</td>
<td>Card</td>
<td>89.6</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>Pol1</td>
<td>Card or History</td>
<td>97.6</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>Pol3</td>
<td>C or H &lt;12 months</td>
<td>74.7</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>Pol3</td>
<td>Card</td>
<td>76.1</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>Pol3</td>
<td>Card or History</td>
<td>82.5</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>RotaC</td>
<td>C or H &lt;12 months</td>
<td>82.8</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
<tr>
<td>RotaC</td>
<td>Card</td>
<td>77</td>
<td>12-23 m</td>
<td>2186</td>
</tr>
<tr>
<td>RotaC</td>
<td>Card or History</td>
<td>83</td>
<td>12-23 m</td>
<td>2391</td>
</tr>
</tbody>
</table>
# Guatemala - survey details

<table>
<thead>
<tr>
<th>Year</th>
<th>Survey</th>
<th>Vaccine Confirmation method</th>
<th>Coverage</th>
<th>Age cohort</th>
<th>Sample</th>
<th>Cards seen</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007 Guatemala, Encuesta Nacional de Salud Materno Infantil 2008-2009</td>
<td></td>
<td>BCG Card or History</td>
<td>96.7</td>
<td>12-23 m</td>
<td>1861</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DTP1 Card or History</td>
<td>95.7</td>
<td>12-23 m</td>
<td>1861</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DTP3 Card or History</td>
<td>84.3</td>
<td>12-23 m</td>
<td>1861</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pol1 Card or History</td>
<td>95.7</td>
<td>12-23 m</td>
<td>1861</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pol3 Card or History</td>
<td>85.2</td>
<td>12-23 m</td>
<td>1861</td>
<td>87</td>
</tr>
<tr>
<td>2006 Guatemala, Encuesta Nacional de Salud Materno Infantil 2008-2009</td>
<td></td>
<td>MCV1 Card or History</td>
<td>89.7</td>
<td>24-35 m</td>
<td>1861</td>
<td>87</td>
</tr>
<tr>
<td>2001 Guatemala, Encuesta Nacional de Salud Materno Infantil 2002</td>
<td></td>
<td>BCG Card or History</td>
<td>91.9</td>
<td>12-23 m</td>
<td>1487</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DTP1 Card or History</td>
<td>93</td>
<td>12-23 m</td>
<td>1487</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DTP3 Card or History</td>
<td>76.7</td>
<td>12-23 m</td>
<td>1487</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MCV1 Card or History</td>
<td>74.7</td>
<td>12-23 m</td>
<td>1487</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pol1 Card or History</td>
<td>94.3</td>
<td>12-23 m</td>
<td>1487</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pol3 Card or History</td>
<td>78.1</td>
<td>12-23 m</td>
<td>1487</td>
<td>69</td>
</tr>
<tr>
<td>1998 Guatemala, Encuesta Nacional de Salud Materno Infantil 1998-1999</td>
<td></td>
<td>BCG C or H &lt;12 months</td>
<td>82.1</td>
<td>12-23 m</td>
<td>848</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BCG Card</td>
<td>64.9</td>
<td>12-23 m</td>
<td>848</td>
<td>68</td>
</tr>
<tr>
<td>1997 Guatemala, Encuesta Nacional de Salud Materno Infantil 1998-1999</td>
<td></td>
<td>BCG C or H &lt;12 months</td>
<td>77.2</td>
<td>24-35 m</td>
<td>868</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DTP1 C or H &lt;12 months</td>
<td>80.2</td>
<td>24-35 m</td>
<td>868</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DTP3 C or H &lt;12 months</td>
<td>50.8</td>
<td>24-35 m</td>
<td>868</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MCV1 C or H &lt;12 months</td>
<td>48.5</td>
<td>24-35 m</td>
<td>868</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pol1 C or H &lt;12 months</td>
<td>80.7</td>
<td>24-35 m</td>
<td>868</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pol3 C or H &lt;12 months</td>
<td>48.7</td>
<td>24-35 m</td>
<td>868</td>
<td>68</td>
</tr>
</tbody>
</table>

Further information and estimates for previous years are available at:
http://www.data.unicef.org/child-health/immunization

July 8, 2021; page 17  
WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2022  
data received as of July 6, 2021