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

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.
PcD: percentage of surviving infants who received the 1st dose of polio containing vaccine regardless of vaccine type.
Pol3: 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 1st 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.

PeV3: 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.

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.

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<td>NA</td>
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### Description:

2022: Estimate informed by relative change in reported doses administered from 2021 to 2022 applied to the prior year estimated coverage. Across the time-series, estimates may overestimate coverage given concerns for quality of administrative recording and reporting system. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country also notes issues related to the accuracy of the numerator such as high turn over of vaccination staff coupled with limited capacity in tallying, recording and reporting of immunization data. Reported data excluded due to sudden change in coverage from 88 level to 71 percent. WHO and UNICEF encourage continued efforts to improve recording and monitoring, including a high quality survey, while the programme continues efforts to increase vaccination coverage. Estimate challenged by: D-R-

2021: Estimate informed by interpolation between estimated coverage for 2020 and 2021. The 13 percent increase in reported BCG doses administered is of such magnitude that it requires validation before being considered a trustworthy year-to-year value. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Reported data excluded due to an increase from 51 percent to 88 percent with decrease 71 percent. Country reports ongoing uncertainty in the target population due to instability and substantial population movement in and out of the country. Reported increases in coverage from 2020 reflect a decline in the reported target population and an apparent increase in the number of children vaccinated which perhaps is an artefact of poor recording and reporting noted in prior years. Estimate of 71 percent changed from previous revision value of 52 percent. Estimate challenged by: D-R-

2020: Estimate informed by relative change in reported doses administered from 2019 to 2020 applied to the prior year estimated coverage. Reported data excluded. Estimate of 69 percent changed from previous revision value of 52 percent. Estimate challenged by: D-R-

2019: Estimate informed by relative change in reported doses administered from 2018 to 2019 applied to the prior year estimated coverage. Doses administered for 2019 calculated here based on interpolation between 2018 and 2020 reported values. Reported data excluded. Programme notes reported official coverage is based on results of the 2017 EPI coverage survey although values do not reflect survey results. Unexplained change in denominator from 2018 to 2019. Estimate of 66 percent changed from previous revision value of 52 percent. Estimate challenged by: D-R-

2018: Estimate informed by relative change in reported doses administered from 2017 to 2018 applied to the prior year estimated coverage. Reported official coverage is based on results of the 2017 EPI coverage survey. Estimate of 66 percent changed from previous revision value of 52 percent. Estimate challenged by: D-R-S-

2017: Estimate informed by relative change in reported doses administered from 2016 to 2017 applied to the prior year estimated coverage. Reported data excluded. Reporting represents 80 percent completeness and may include campaign doses. Estimate of 65 percent
changed from previous revision value of 52 percent. Estimate challenged by: D-R-S-

2016: Estimate informed by reported data supported by survey. As of 2016, the Republic of South Sudan is challenged by ongoing civil conflict in several states. Population displacements both internally and across international borders continues to be problematic with more than an estimated one million South Sudanese projected to be refugees in neighbouring countries (UNHCR). Not surprisingly given the current situation, concerns continue with regards to quality of recording and monitoring, timeliness and completeness of data. Reported administrative coverage data reflect reporting from 80 percent of total expected district reports. GoC=Assigned by working group. GoC of one for consistency between vaccine doses and previous and later years.

2015: Reported data calibrated to 2011 and 2016 levels. Official government reported data reflects coverage derived from the DHIS2 system. Estimate challenged by: D-R-

2014: Reported data calibrated to 2011 and 2016 levels. Estimate challenged by: R-

2013: Reported data calibrated to 2011 and 2016 levels. Official government estimate based on immunization programme targets. Estimate challenged by: D-R-

2012: Reported data calibrated to 2011 and 2016 levels. Official government estimate based on immunization programme targets. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 75 percent based on 1 survey(s). The Republic of South Sudan became an independent state and was admitted to the United Nations and became a WHO member state in July 2011. Access to health facilities is a problem in many parts of the country for five months out of the year. The official government estimates for 2011 are based on the number of children vaccinated (administrative reports) and the highest denominator possible as derived from the five birth cohorts reached in Polio SIAs. The resulting official estimate is much lower than the administrative estimates because of the marked differences in denominators used. Please note that the this method of official estimation of coverage in South Sudan was used because of the consistent under-estimation of the denominators derived from the 2008 housing and population census that were used in earlier years. Official government estimate based on immunization programme targets. Estimate challenged by: D-R-
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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<th>Year</th>
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</table>

Description:

2011: Estimate informed by relative change in reported doses administered from 2010 to 2011. Estimate challenged by: D-R-

2012: Estimate informed by relative change in reported doses administered from 2011 to 2012. Estimate challenged by: D-R-

2013: Estimate informed by relative change in reported doses administered from 2012 to 2013. Estimate challenged by: D-R-

2014: Estimate informed by relative change in reported doses administered from 2013 to 2014. Estimate challenged by: D-R-

2015: Estimate informed by relative change in reported doses administered from 2014 to 2015. Estimate challenged by: D-R-

2016: Estimate informed by relative change in reported doses administered from 2015 to 2016. Estimate challenged by: D-R-

2017: Estimate informed by relative change in reported doses administered from 2016 to 2017. Estimate challenged by: D-R-

2018: Estimate informed by relative change in reported doses administered from 2017 to 2018. Estimate challenged by: D-R-

2019: Estimate informed by relative change in reported doses administered from 2018 to 2019. Estimate challenged by: D-R-

2020: Estimate informed by relative change in reported doses administered from 2019 to 2020. Estimate challenged by: D-R-

2021: Estimate informed by relative change in reported doses administered from 2020 to 2021. Estimate challenged by: D-R-

2022: Estimate informed by relative change in reported doses administered from 2021 to 2022. Estimate challenged by: D-R-

Note: 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.
South Sudan - DTP1

...porting represents 80 percent completeness and may includes campaign doses. Reported data excluded due to an increase from 58 percent to 77 percent with decrease 51 percent. Estimate of 59 percent changed from previous revision value of 55 percent. Estimate challenged by: D-R-

2016: Estimate informed by on survey result. Although survey data support reported data, there is concern that the reported number of doses for DTP1 is contaminated by DTP2 and/or DTP3 doses. There is also concern about DTP1 data vis-a-vis DTP3; that is, at present, neither the survey result for the 2016 cohort nor the reported numerator data provide reasonable information for DTP1-DTP3 dropout. As of 2016, the Republic of South Sudan is challenged by ongoing civil conflict in several states. Population displacements both internally and across international borders continues to be problematic with more than an estimated one million South Sudanese projected to be refugees in neighbouring countries (UNHCR). Not surprisingly given the current situation, concerns continue with regards to quality of recording and monitoring, timeliness and completeness of data. Reported administrative coverage data reflect reporting from 80 percent of total expected district reports. Estimate of 51 percent changed from previous revision value of 58 percent. GoC=Assigned by working group. GoC of one for consistency between vaccine doses and previous and later years.

2015: Reported data calibrated to 2011 and 2016 levels. Official government reported data reflects coverage derived from the DHIS2 system. Estimate challenged by: D-R-

2014: Reported data calibrated to 2011 and 2016 levels. Estimate challenged by: R-S-

2013: Reported data calibrated to 2011 and 2016 levels. Official government estimate based on immunization programme targets. Estimate challenged by: D-R-S-

2012: Reported data calibrated to 2011 and 2016 levels. Official government estimate based on immunization programme targets. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 79 percent based on 4 survey(s). The Republic of South Sudan became an independent state and was admitted to the United Nations and became a WHO member state in July 2011. Access to health facilities is a problem in many parts of the country for five months out of the year. The official government estimates for 2011 are based on the number of children vaccinated (administrative reports) and the highest denominator possible as derived from the five birth cohorts reached in Polio SIAs. The resulting official estimate is much lower than the administrative estimates because of the marked differences in denominators used. Please note that the this method of official estimation of coverage in South Sudan was used because of the consistent under-estimation of the denominators derived from the 2008 housing and population census that were used in earlier years. Official government estimate based on immunization programme targets. Estimate challenged by: D-R-
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 GoC

- 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 relative change in reported doses administered from 2021 to 2022 applied to the prior year estimated coverage. Across the time-series, estimate may overestimate coverage as well as dropout for multi-dose antigens given concerns for quality of administrative recording and reporting system. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country also notes issues related to the accuracy of the numerator such as high turn over of vaccination staff coupled with limited capacity in tallying, recording and reporting of immunization data. WHO and UNICEF encourage continued efforts to improve recording and monitoring, including a high quality survey, while the programme continues efforts to increase vaccination coverage. Estimate challenged by: D-R-

2021: Estimate informed by relative change in reported doses administered from 2020 to 2021 applied to the prior year estimated coverage. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country reports ongoing uncertainty in the target population due to instability and substantial population movement in and out of the country. Reported increases in coverage from 2020 reflect a decline in the reported target population and an apparent increase in the number of children vaccinated which perhaps is an artefact of poor recording and reporting noted in prior years. Estimate of 69 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2020: Estimate informed by interpolation between estimated coverage for 2019 and 2021. The 32 percent increase in reported doses administered is of such magnitude that it requires validation before being considered a trustworthy year-to-year value. Reported data excluded. . Estimate of 67 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2019: Estimate informed by relative change in reported doses administered from 2018 to 2019 applied to the prior year estimated coverage. Reported data excluded. Programme notes reported official coverage is based on results of the 2017 EPI coverage survey although values do not reflect survey results. Unexplained change in denominator from 2018 to 2019. Estimate of 61 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2018: Estimate informed by relative change in reported doses administered from 2017 to 2018 applied to the prior year estimated coverage. Reported official coverage is based on results of the 2017 EPI coverage survey. Estimate of 59 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2017: Estimate informed by relative change in reported doses administered from 2016 to 2017 applied to the prior year estimated coverage. Reported data excluded. Reporting represents 80 percent completeness and may includes campaign doses. Estimate of 52 percent changed from previous revision value of 47 percent. Estimate challenged by: D-R-

2016: Estimate informed by reported data supported by survey. As of 2016, the Republic of
South Sudan is challenged by ongoing civil conflict in several states. Population displacements both internally and across international borders continues to be problematic with more than an estimated one million South Sudanese projected to be refugees in neighbouring countries (UNHCR). Not surprisingly given the current situation, concerns continue with regards to quality of recording and monitoring, timeliness and completeness of data. Reported administrative coverage data reflect reporting from 80 percent of total expected district reports. GoC=Assigned by working group. GoC of one for consistency between vaccine doses and previous and later years.

2015: Reported data calibrated to 2011 and 2016 levels. Official government reported data reflects coverage derived from the DHIS2 system. Estimate challenged by: D-R-

2014: Reported data calibrated to 2011 and 2016 levels. Estimate challenged by: R-

2013: Reported data calibrated to 2011 and 2016 levels. Official government estimate based on immunization programme targets. Estimate challenged by: R-

2012: Reported data calibrated to 2011 and 2016 levels. Official government estimate based on immunization programme targets. Estimate challenged by: R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 61 percent based on 1 survey(s). Republic of South Sudan EPI Coverage Survey 2011-2012 card or history results of 55 percent modified for recall bias to 61 percent based on 1st dose card or history coverage of 79 percent, 1st dose card only coverage of 31 percent and 3rd dose card only coverage of 24 percent. The Republic of South Sudan became an independent state and was admitted to the United Nations and became a WHO member state in July 2011. Access to health facilities is a problem in many parts of the country for five months out of the year. The official government estimates for 2011 are based on the number of children vaccinated (administrative reports) and the highest denominator possible as derived from the five birth cohorts reached in Polio SIAs. The resulting official estimate is much lower than the administrative estimates because of the marked differences in denominators used. Please note that the this method of official estimation of coverage in South Sudan was used because of the consistent under-estimation of the denominators derived from the 2008 housing and population census that were used in earlier years. Official government estimate based on immunization programme targets. Estimate challenged by: D-R-
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 relative change in reported doses administered from 2021 to 2022 applied to the prior year estimated coverage. Across the time-series, estimate may overestimate coverage as well as dropout for multi-dose antigens given concerns for quality of administrative recording and reporting system. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country also notes issues related to the accuracy of the numerator such as high turn over of vaccination staff coupled with limited capacity in tallying, recording and reporting of immunization data. WHO and UNICEF encourage continued efforts to improve recording and monitoring, including a high qualitysurvey, while the programme continues efforts to increase vaccination coverage. Estimate challenged by: D-R-

2021: Estimate informed by estimated DTP3 coverage level. The 51 percent increase in reported doses administered is of such magnitude that it requires validation before being considered a trustworthy year-to-year value. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country reports ongoing uncertainty in the target population due to instability and substantial population movement in and out of the country. Reported increases in coverage from 2020 reflect a decline in the reported target population and an apparent increase in the number of children vaccinated which perhaps is an artefact of poor recording and reporting noted in prior years. Estimate of 69 percent changed from previous revision value of 50 percent. Estimate challenged by: D-R-

2020: Estimate informed by interpolation between estimated values for 2019 and 2021. Reported data excluded. Estimate of 65 percent changed from previous revision value of 50 percent. Estimate challenged by: D-R-

2019: Estimate informed by relative change in reported doses administered from 2018 to 2019 applied to the prior year estimated coverage. Reported data excluded. Programme notes reported official coverage is based on results of the 2017 EPI coverage survey although values do not reflect survey results. Unexplained change in denominator from 2018 to 2019. Estimate of 61 percent changed from previous revision value of 50 percent. Estimate challenged by: D-R-

2018: Estimate informed by relative change in reported doses administered from 2017 to 2018 applied to the prior year estimated coverage. Reported official coverage is based on results of the 2017 EPI coverage survey. Estimate of 60 percent changed from previous revision value of 50 percent. Estimate challenged by: D-R-

2017: Estimate informed by relative change in reported doses administered from 2016 to 2017 applied to the prior year estimated coverage. Reported data excluded. Reporting represents 80 percent completeness and may includes campaign doses. Estimate of 60 percent changed from previous revision value of 48 percent. Estimate challenged by: D-R-

2016: Estimate informed by reported data supported by survey. As of 2016, the Republic of South Sudan is challenged by ongoing civil conflict in several states. Population dis-
placements both internally and across international borders continues to be problematic with more than an estimated one million South Sudanese projected to be refugees in neighbouring countries (UNHCR). Not surprisingly given the current situation, concerns continue with regards to quality of recording and monitoring, timeliness and completeness of data. Reported administrative coverage data reflect reporting from 80 percent of total expected district reports. GoC=Assigned by working group. GoC of one for consistency between vaccine doses and previous and later years.

2015: Reported data calibrated to 2011 and 2016 levels. Official government reported data reflects coverage derived from the DHIS2 system. Estimate challenged by: D-R-

2014: Reported data calibrated to 2011 and 2016 levels. Estimate challenged by: R-

2013: Reported data calibrated to 2011 and 2016 levels. Official government estimate based on immunization programme targets. Estimate challenged by: R-

2012: Reported data calibrated to 2011 and 2016 levels. Official government estimate based on immunization programme targets. Estimate challenged by: R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 66 percent based on 1 survey(s). Republic of South Sudan EPI Coverage Survey 2011-2012 card or history results of 58 percent modified for recall bias to 66 percent based on 1st dose card or history coverage of 80 percent, 1st dose card only coverage of 29 percent and 3rd dose card only coverage of 24 percent. The Republic of South Sudan became an independent state and was admitted to the United Nations and became a WHO member state in July 2011. Access to health facilities is a problem in many parts of the country for five months out of the year. The official government estimates for 2011 are based on the number of children vaccinated (administrative reports) and the highest denominator possible as derived from the five birth cohorts reached in Polio SIAs. The resulting official estimate is much lower than the administrative estimates because of the marked differences in denominators used. Please note that the this method of official estimation of coverage in South Sudan was used because of the consistent under-estimation of the denominators derived from the 2008 housing and population census that were used in earlier years. Official government estimate based on immunization programme targets. Estimate challenged by: R-
### South Sudan - 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 relative change in reported doses administered from 2021 to 2022 applied to the prior year estimated coverage. Across the time-series, estimates may overestimate coverage given concerns for quality of administrative recording and reporting system. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country also notes issues related to the accuracy of the numerator such as high turn over of vaccination staff coupled with limited capacity in tallying, recording and reporting of immunization data. WHO and UNICEF encourage continued efforts to improve recording and monitoring, including a high quality survey, while the programme continues efforts to increase vaccination coverage. Estimate challenged by: D-R-

- **2021**: Estimate informed by relative change in reported doses administered from 2020 to 2021 applied to the prior year estimated coverage. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country reports ongoing uncertainty in the target population due to instability and substantial population movement in and out of the country. Reported increases in coverage from 2020 reflect a decline in the reported target population and an apparent increase in the number of children vaccinated which perhaps is an artefact of poor recording and reporting noted in prior years. Estimate of 64 percent changed from previous revision value of 39 percent. Estimate challenged by: D-R-

- **2020**: Estimate informed by interpolation between estimated coverage for 2019 and 2021. Reported data excluded. Estimate of 60 percent changed from previous revision value of 39 percent. Estimate challenged by: D-R-

- **2019**: Estimate informed by relative change in reported doses administered from 2018 to 2019 applied to the prior year estimated coverage. Reported data excluded. Programme notes reported official coverage is based on results of the 2017 EPI coverage survey although values do not reflect survey results. Unexplained change in denominator from 2018 to 2019. Estimate of 56 percent changed from previous revision value of 39 percent. Estimate challenged by: D-R-

- **2018**: Estimate informed by interpolation between 2017 and 2019. Reported official coverage is based on results of the 2017 EPI coverage survey. Estimate of 56 percent changed from previous revision value of 39 percent. Estimate challenged by: D-R-

- **2017**: Estimate informed by relative change in reported doses administered from 2016 to 2017 applied to the prior year estimated coverage. Reported data excluded. Reporting repre-

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### Table: WHO and UNICEF estimates of national immunization coverage

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*Description:*

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.

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WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2024  
data received as of June 26, 2023
South Sudan - IPV1

sents 80 percent completeness and may includes campaign doses. Reported data excluded due to an increase from 34 percent to 54 percent with decrease 39 percent. Estimate of 56 percent changed from previous revision value of 37 percent. Estimate challenged by: D-R-S.

2016: Estimate informed by reported data supported by survey. As of 2016, the Republic of South Sudan is challenged by ongoing civil conflict in several states. Population displacements both internally and across international borders continues to be problematic with more than an estimated one million South Sudanese projected to be refugees in neighbouring countries (UNHCR). Not surprisingly given the current situation, concerns continue with regards to quality of recording and monitoring, timeliness and completeness of data. Reported administrative coverage data reflect reporting from 80 percent of total expected district reports. GoC=Assigned by working group. GoC of one for consistency between vaccine doses and previous and later years.

2015: Estimate informed by reported data. Official government reported data reflects coverage derived from the DHIS2 system. Inactivated polio vaccine during December 2015. GoC=Assigned by working group. GoC assigned to maintain consistency across vaccines.
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 relative change in reported doses administered from 2021 to 2022 applied to the prior year estimated coverage. Across the time-series, estimates may overestimate coverage given concerns for quality of administrative recording and reporting system. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country also notes issues related to the accuracy of the numerator such as high turn over of vaccination staff coupled with limited capacity in tallying, recording and reporting of immunization data. Reported data excluded due to sudden change in coverage from 83 level to 66 percent. WHO and UNICEF encourage continued efforts to improve recording and monitoring, including a high quality survey, while the programme continues efforts to increase vaccination coverage. Estimate challenged by: D-R-

2021: Estimate informed by relative change in reported doses administered from 2020 to 2021 applied to the prior year estimated coverage. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Reported data excluded due to an increase from 53 percent to 83 percent with decrease 66 percent. Country reports ongoing uncertainty in the target population due to instability and substantial population movement in and out of the country. Reported increases in coverage from 2020 reflect a decline in the reported target population and an apparent increase in the number of children vaccinated which perhaps is an artefact of poor recording and reporting noted in prior years. Estimate of 74 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2020: Estimate informed by relative change in reported doses administered from 2019 to 2020 applied to the prior year estimated coverage. Reported data excluded. . Estimate of 69 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2019: Estimate informed by relative change in reported doses administered from 2018 to 2019 applied to the prior year estimated coverage. Doses administered for 2019 based on interpolation between 2018 and 2020 reported values. Reported data excluded. Programme notes reported official coverage is based on results of the 2017 EPI coverage survey although values do not reflect survey results. Unexplained change in denominator from 2018 to 2019. Estimate of 65 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2018: Estimate informed by interpolation between 2017 and 2019. Reported official coverage is based on results of the 2017 EPI coverage survey. Estimate of 61 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-S-

2017: Estimate informed by relative change in reported doses administered from 2016 to 2017 applied to the prior year estimated coverage. Doses administered for 2017 based on interpolation between 2016 and 2018 reported values. Reported data excluded. Reporting represents 80 percent completeness and may include campaign doses. Reported data excluded due to an increase from 51 percent to 75 percent with decrease 49 percent.
Estimate of 56 percent changed from previous revision value of 50 percent. Estimate challenged by: D-R-

2016: Estimate informed by reported data supported by survey. Reported data excluded due to decline in reported coverage from 70 percent to 51 percent with increase to 75 percent. As of 2016, the Republic of South Sudan is challenged by ongoing civil conflict in several states. Population displacements both internally and across international borders continues to be problematic with more than an estimated one million South Sudanese projected to be refugees in neighbouring countries (UNHCR). Not surprisingly given the current situation, concerns continue with regards to quality of recording and monitoring, timeliness and completeness of data. Reported administrative coverage data reflect reporting from 80 percent of total expected district reports. GoC=Assigned by working group. GoC of one for consistency between vaccine doses and previous and later years.

2015: Estimate informed by interpolation between 2011 and 2016 levels. During the period 2011-2015, programme reports conducting multiple measles campaigns and mop-up activities. Based on a review of reported numerator data, it is unclear whether any of this activity may be reflected in the RI data. Official government reported data reflects coverage derived from the DHIS2 system. Estimate of 52 percent changed from previous revision value of 53 percent. Estimate challenged by: D-R-

2014: Estimate informed by interpolation between 2011 and 2016 levels. During the period 2011-2015, programme reports conducting multiple measles campaigns and mop-up activities. Based on a review of reported numerator data, it is unclear whether any of this activity may be reflected in the RI data. No explanation provided for adjusted coverage level. Estimate of 54 percent changed from previous revision value of 55 percent. Estimate challenged by: D-R-

2013: Estimate informed by interpolation between 2011 and 2016 levels. During the period 2011-2015, programme reports conducting multiple measles campaigns and mop-up activities. Based on a review of reported numerator data, it is unclear whether any of this activity may be reflected in the RI data. Official government estimate based on immunization programme targets. Estimate of 57 percent changed from previous revision value of 58 percent. Estimate challenged by: D-R-

2012: Estimate informed by interpolation between 2011 and 2016 levels. During the period 2011-2015, programme reports conducting multiple measles campaigns and mop-up activities. Based on a review of reported numerator data, it is unclear whether any of this activity may be reflected in the RI data. Official government estimate based on immunization programme targets. Estimate of 59 percent changed from previous revision value of 60 percent. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 62 percent based on 1 survey(s). The Republic of South Sudan became an independent state and was admitted to the United Nations and became a WHO member state in July 2011. Access to health facilities is a problem in many parts of the country for five months out of the year. The official government estimates for 2011 are based on the number of children vaccinated (administrative reports) and the highest denominator possible as derived from the five birth cohorts reached in Polio SIAs. The resulting official estimate is much lower than the administrative estimates because of the marked differences in denominators used. Please note that the this method of official estimation of coverage in South Sudan was used because of the consistent under-estimation of the denominators derived from the 2008 housing and population census that were used in earlier years.. Official government estimate based on immunization programme targets. Estimate challenged by: D-R-
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.
The WHO and UNICEF estimates of national immunization coverage (wunivc) 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.
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.
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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.

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The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability model upon which the estimates are based, we are unable to present classical measures of uncertainty, e.g., confidence intervals. Moreover, we have chosen not to make subjective estimates of plausibility/certainty ranges around the coverage. The GoC reflects the degree of empirical support upon which the estimates are based. It is not a judgment of the quality of data reported by national authorities.
South Sudan - HepB3

Description:

2022: Estimate informed by relative change in reported doses administered from 2021 to 2022 applied to the prior year estimated coverage. Across the time-series, estimate may overestimate coverage as well as dropout for multi-dose antigens given concerns for quality of administrative recording and reporting system. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country also notes issues related to the accuracy of the numerator such as high turn over of vaccination staff coupled with limited capacity in tallying, recording and reporting of immunization data. WHO and UNICEF encourage continued efforts to improve recording and monitoring, including a high quality survey, while the programme continues efforts to increase vaccination coverage. Estimate challenged by: D-R-

2021: Estimate informed by relative change in reported doses administered from 2020 to 2021 applied to the prior year estimated coverage. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country reports ongoing uncertainty in the target population due to instability and substantial population movement in and out of the country. Reported increases in coverage from 2020 reflect a decline in the reported target population and an apparent increase in the number of children vaccinated which perhaps is an artefact of poor recording and reporting noted in prior years. Estimate of 69 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2020: Estimate informed by interpolation between estimated coverage for 2019 and 2021. The 32 percent increase in reported doses administered is of such magnitude that it requires validation before being considered a trustworthy year-to-year value. Reported data excluded. . Estimate of 67 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2019: Estimate informed by relative change in reported doses administered from 2018 to 2019 applied to the prior year estimated coverage. Reported data excluded. Programme notes reported official coverage is based on results of the 2017 EPI coverage survey although values do not reflect survey results. Unexplained change in denominator from 2018 to 2019. Estimate of 61 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2018: Estimate informed by relative change in reported doses administered from 2017 to 2018 applied to the prior year estimated coverage. Reported official coverage is based on results of the 2017 EPI coverage survey. Estimate of 59 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2017: Estimate informed by relative change in reported doses administered from 2016 to 2017 applied to the prior year estimated coverage. Reported data excluded. Reporting represents 80 percent completeness and may includes campaign doses. Estimate of 52 percent changed from previous revision value of 47 percent. Estimate challenged by: D-R-

2016: Estimate informed by reported data supported by survey. As of 2016, the Republic of

The WHO and UNICEF estimates of national immunization coverage (vuenic) 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.
South Sudan is challenged by ongoing civil conflict in several states. Population displacements both internally and across international borders continues to be problematic with more than an estimated one million South Sudanese projected to be refugees in neighbouring countries (UNHCR). Not surprisingly given the current situation, concerns continue with regards to quality of recording and monitoring, timeliness and completeness of data. Reported administrative coverage data reflect reporting from 80 percent of total expected district reports. GoC=Assigned by working group. GoC of one for consistency between vaccine doses and previous and later years.

2015: DTP-HepB-Hib vaccine introduced in July 2014. Reporting began during 2015. Estimate informed by DTP3 level. Official government reported data reflects coverage derived from the DHIS2 system. Estimate of 46 percent changed from previous revision value of 31 percent. Estimate challenged by: D-R-
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.

Estimates are supported by at least one data source: [R+], [S+], or [D+]; and no data source, [R-], [D-], or [S-] (estimates are not supported by any data source).

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.

### South Sudan - Hib3

#### Description:

2022: Estimate informed by relative change in reported doses administered from 2021 to 2022 applied to the prior year estimated coverage. Across the time-series, estimate may overestimate coverage as well as dropout for multi-dose antigens given concerns for quality of administrative recording and reporting system. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country also notes issues related to the accuracy of the numerator such as high turn over of vaccination staff coupled with limited capacity in tallying, recording and reporting of immunization data. WHO and UNICEF encourage continued efforts to improve recording and monitoring, including a high quality survey, while the programme continues efforts to increase vaccination coverage. Estimate challenged by: D-R-

2021: Estimate informed by relative change in reported doses administered from 2020 to 2021 applied to the prior year estimated coverage. Reported data excluded. Country reports that due to instability in the country, there is a large population movement in and out of the country which affects the denominator. Country reports ongoing uncertainty in the target population due to instability and substantial population movement in and out of the country. Reported increases in coverage from 2020 reflect a decline in the reported target population and an apparent increase in the number of children vaccinated which perhaps is an artefact of poor recording and reporting noted in prior years. Estimate of 69 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2020: Estimate informed by interpolation between estimated coverage for 2019 and 2021. The 32 percent increase in reported doses administered is of such magnitude that it requires validation before being considered a trustworthy year-to-year value. Reported data excluded. Estimate of 67 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2019: Estimate informed by relative change in reported doses administered from 2018 to 2019 applied to the prior year estimated coverage. Reported data excluded. Programme notes reported official coverage is based on results of the 2017 EPI coverage survey although values do not reflect survey results. Unexplained change in denominator from 2018 to 2019. Estimate of 61 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2018: Estimate informed by relative change in reported doses administered from 2017 to 2018 applied to the prior year estimated coverage. Reported official coverage is based on results of the 2017 EPI coverage survey. Estimate of 59 percent changed from previous revision value of 49 percent. Estimate challenged by: D-R-

2017: Estimate informed by relative change in reported doses administered from 2016 to 2017 applied to the prior year estimated coverage. Reported data excluded. Reporting represents 80 percent completeness and may includes campaign doses. Estimate of 52 percent changed from previous revision value of 47 percent. Estimate challenged by: D-R-

2016: Estimate informed by reported data supported by survey. As of 2016, the Republic of
South Sudan is challenged by ongoing civil conflict in several states. Population displacements both internally and across international borders continues to be problematic with more than an estimated one million South Sudanese projected to be refugees in neighbouring countries (UNHCR). Not surprisingly given the current situation, concerns continue with regards to quality of recording and monitoring, timeliness and completeness of data. Reported administrative coverage data reflect reporting from 80 percent of total expected district reports. GoC=Assigned by working group. GoC of one for consistency between vaccine doses and previous and later years.

2015: DTP-HepB-Hib vaccine introduced in July 2014. Reporting began during 2015. Estimate informed by DTP3 level. Official government reported data reflects coverage derived from the DHIS2 system. Estimate of 46 percent changed from previous revision value of 31 percent. Estimate challenged by: D-R-
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.
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.
NOTE: A survey to measure vaccination coverage for infants (i.e., children aged 0 to 11 months) will sample children aged 12 to 23 months at the time of survey to capture the youngest annual cohort of children who should have completed the vaccination schedule. Because WUENIC are for infant vaccinations, survey data in this report are presented to reflect the birth year of the youngest survey cohort. For example, results for a survey conducted during December 2020 among children aged 12 to 23 months at the time of the survey reflect the immunization experience of children born in 2019. Depending on the timing of survey field work, results may reflect the immunization experience of children born and vaccinated 1 or 2 years prior to the survey field work.

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2009 South Sudan Household Health Survey 2010 (SHHS 2)

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July 1, 2023; page 24
### South Sudan - survey details

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- July 1, 2023; page 25
- WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2024
- Data received as of June 26, 2023
Further information and estimates for previous years are available at:
https://data.unicef.org/topic/child-health/immunization/
https://immunizationdata.who.int/listing.html