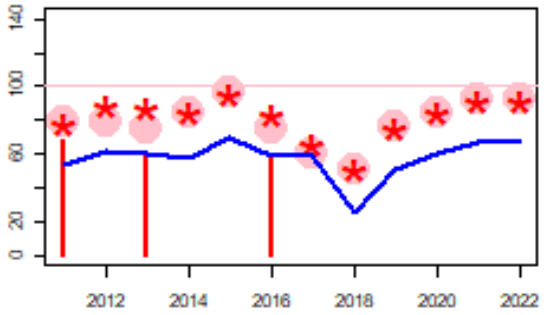
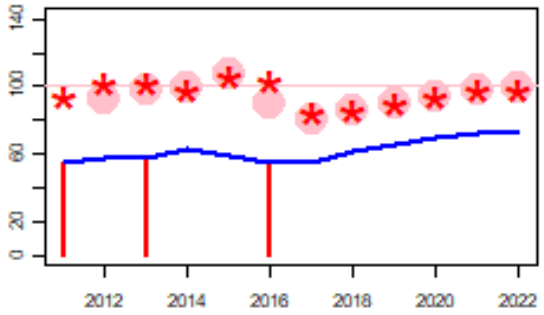
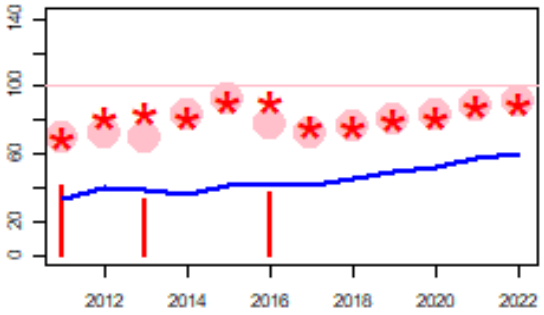
BCG



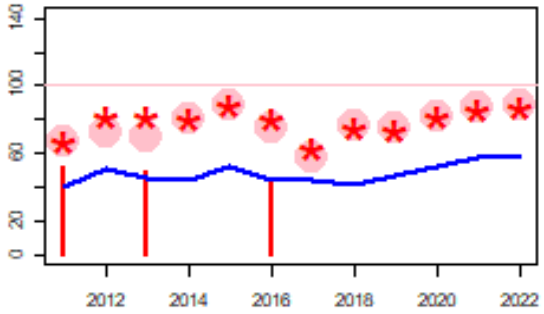
DTP1



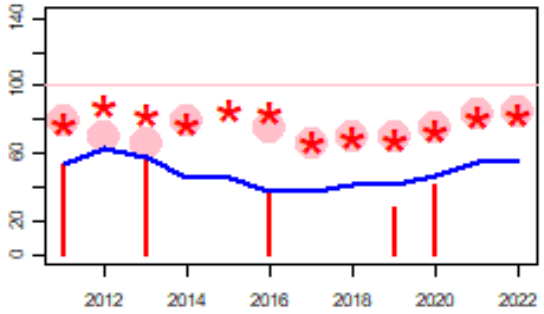
DTP3



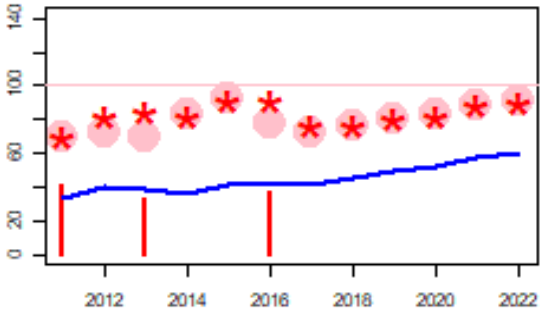
Pol3



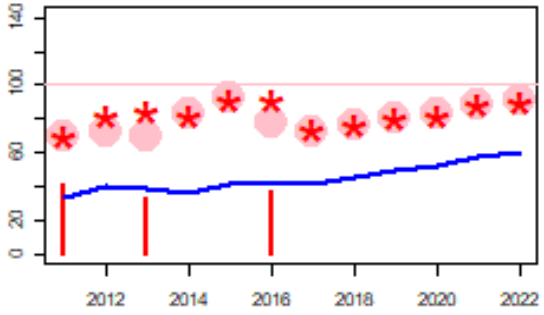
MCV1



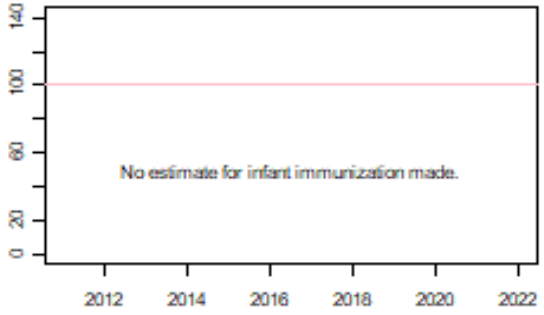
HepB3



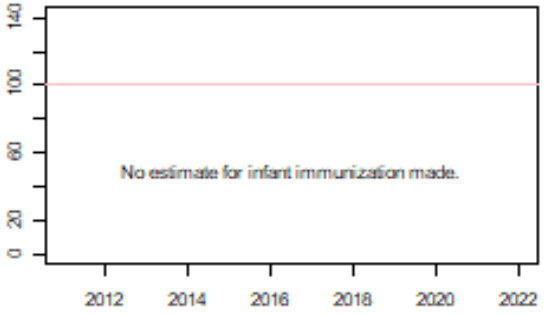
Hib3



RotaC



PcV3



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

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

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

DATA SOURCES.

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

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

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

ABBREVIATIONS

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

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

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

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

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

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

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

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

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

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

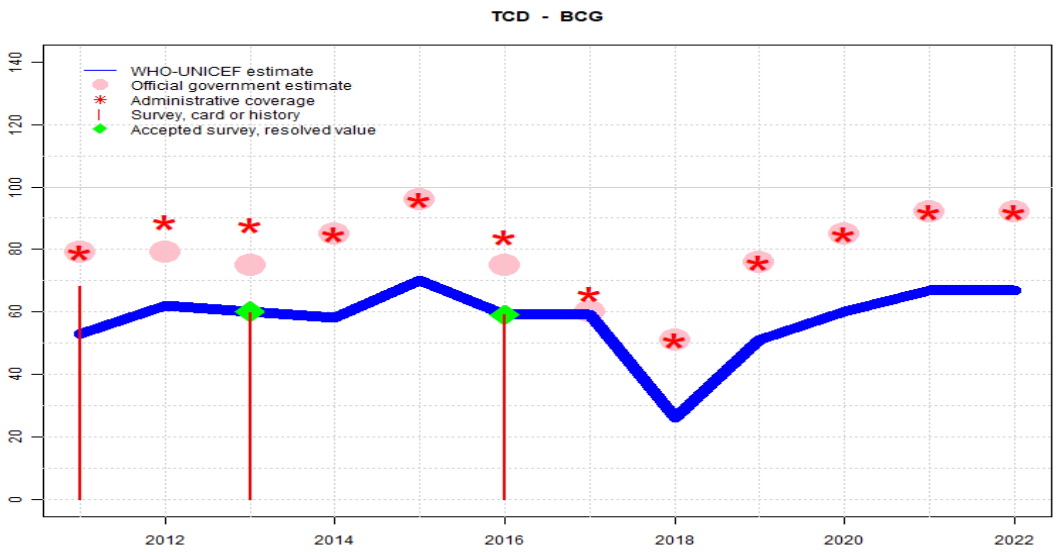
Hib3: percentage of surviving infants who received the 3rd dose of Haemophilus influenzae type b containing vaccine.

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

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

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

Chad - BCG



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	53	62	60	58	70	59	59	26	51	60	67	67
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	79	79	75	85	96	75	60	51	76	85	92	92
Administrative	79	89	88	85	96	84	66	51	76	85	92	92
Survey	68	NA	59.6	NA	NA	59	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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

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

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

Description:

2022: Estimate informed by the difference between reported DTP1 and BCG coverage applied to estimated DTP1 coverage. Programme notes challenges with the availability of data recording tools and training of health centre managers in data verification and analysis. Also, data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. WHO and UNICEF recommend a high-quality vaccination coverage survey and encourage the conduction of the national immunization coverage survey planned for 2023. Estimate challenged by: D-R-

2021: Estimate is based on the difference between reported DTP1 and BCG coverage applied to estimated DTP1 coverage. Estimate challenged by: D-R-

2020: Estimate is based on the difference between reported DTP1 and BCG coverage applied to DTP1 estimates. Reported target population declined between 2019 and 2020. Immunization estimates from MICS survey could not be produced due to an error in data collection. Estimate challenged by: D-R-

2019: Estimate is based on the difference between reported DTP1 and BCG coverage applied to DTP1 estimates. Reported data suggests recovery following vaccine supply disruption in 2018 in spite of reported national and district level vaccine stockout of less than one month duration during 2019. Reported coverage levels continue to suggest challenges within the administrative recording and reporting system. Programme notes that health center managers are insufficiently trained in data verification and analysis and that data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. Estimate challenged by: D-R-

2018: Estimate is based on the difference between reported DTP1 and BCG coverage applied to DTP1 estimates. Programme reports a 2.5 month vaccine stockout at national level. Estimate challenged by: D-R-S-

2017: Estimate of 59 percent assigned by working group. Estimate is based on survey result. Decline in reported coverage is due in part to 25 percent increase in target population between 2016 and 2017. Programme reports a five months vaccine stockout. Estimate challenged by: D-R-

2016: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 59 percent based on 1 survey(s). Programme reports two months national vaccine stockout. Reported official estimates inconsistent with administrative data. Estimate challenged by: D-R-

2015: Reported data calibrated to 2013 and 2016 levels. Recovery from prior year stockout. Estimate challenged by: D-R-S-

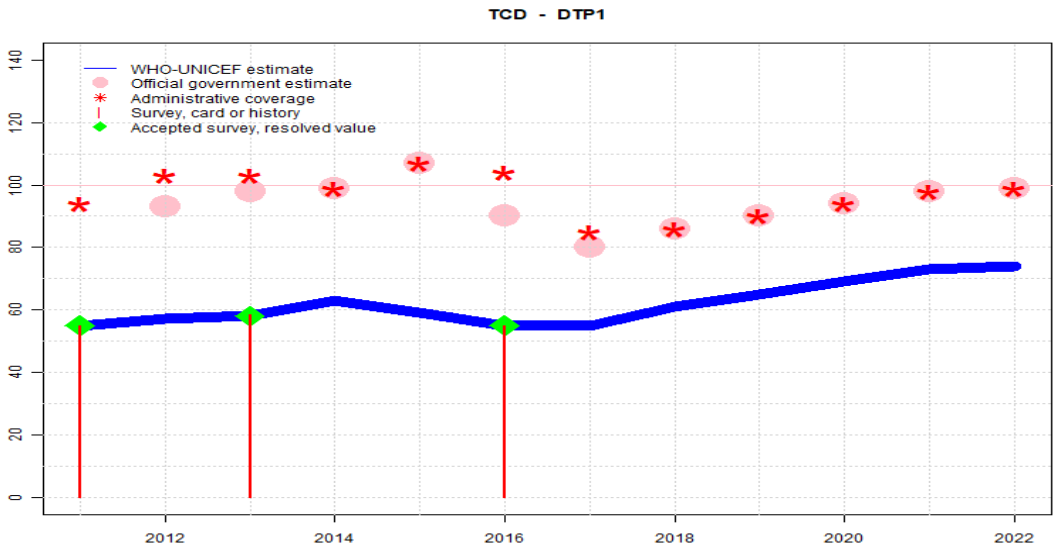
2014: Reported data calibrated to 2013 and 2016 levels. In conjunction with intensification of supportive supervision and outreach activities, the programme has established a system of monthly monitoring of performance indicators backed by regular monitoring through additional supportive supervisory visits. A National programme reports two months stockout at national level. Estimate challenged by: D-R-

2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 60 percent based on 1 survey(s). Programme reports stockouts for all antigens at the district level (duration unknown and number of districts unknown). Government official estimate reflects an adjustment based on a preliminary sub-national coverage survey results. Estimate challenged by: D-R-

2012: Reported data calibrated to 2009 and 2013 levels. Government official estimate reflects an adjustment based on survey results. Estimate challenged by: D-R-

2011: Reported data calibrated to 2009 and 2013 levels. Chad Vaccination Coverage Survey 2012 results ignored by working group. BCG card only coverage of 57 percent is inconsistent with card retention rate of 41 percent.. Estimate of 53 percent changed from previous revision value of 52 percent. Estimate challenged by: D-R-

Chad - DTP1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	55	57	58	63	59	55	55	61	65	69	73	74
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	NA	93	98	99	107	90	80	86	90	94	98	99
Administrative	94	103	103	99	107	104	85	86	90	94	98	99
Survey	55	NA	58.3	NA	NA	55	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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

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

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

Description:

2022: Reported data calibrated to 2017 levels. Programme notes challenges with the availability of data recording tools and training of health centre managers in data verification and analysis. Also, data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. WHO and UNICEF recommend a high-quality vaccination coverage survey and encourage the conduction of the national immunization coverage survey planned for 2023. Programme reports a one month vaccine stockout at national and subnational levels. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2017 levels. Reported target population declined between 2019 and 2020. Immunization estimates from MICS survey could not be produced due to an error in data collection. Programme reports district level vaccine stockout of unspecified duration. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported coverage levels continue to suggest challenges within the administrative recording and reporting system. Programme notes that health center managers are insufficiently trained in data verification and analysis and that data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2017: Estimate of 55 percent assigned by working group. Estimate is based on survey result. Decline in reported coverage is due in part to 25 percent increase in target population between 2016 and 2017. Estimate challenged by: D-R-

2016: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 55 percent based on 1 survey(s). Reported data excluded because 104 percent greater than 100 percent. Reported official estimates inconsistent with administrative data. Estimate challenged by: D-R-

2015: Reported data calibrated to 2013 and 2016 levels. Reported data excluded because 107 percent greater than 100 percent. Estimate challenged by: D-R-

2014: Reported data calibrated to 2013 and 2016 levels. In conjunction with intensification of supportive supervision and outreach activities, the programme has established a system of monthly monitoring of performance indicators backed by regular monitoring through additional supportive supervisory visits. A Estimate challenged by: D-R-

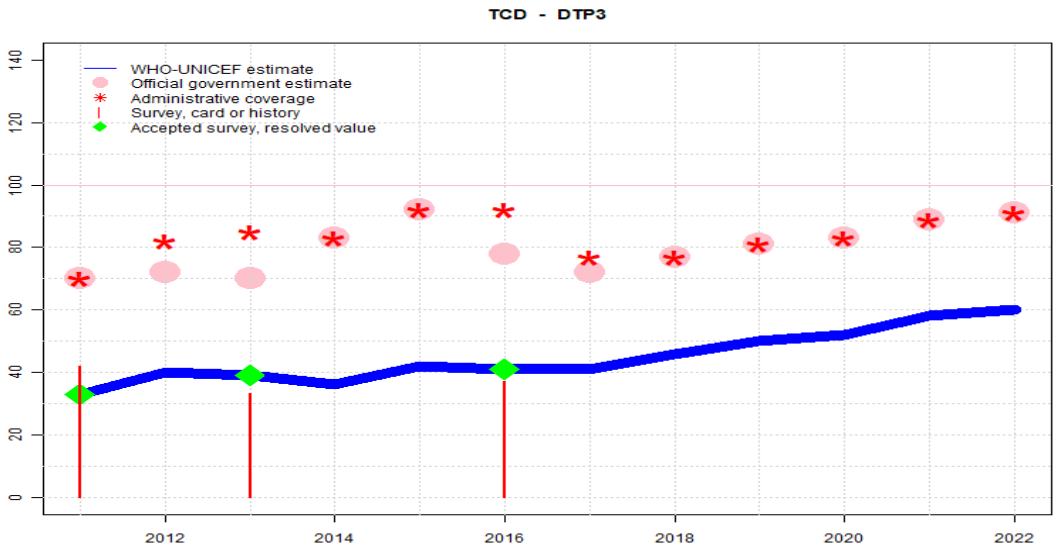
2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 58 percent based on 1 survey(s). Reported data excluded because 103 percent greater than 100 percent. Programme reports stockouts for all antigens at the district level (duration unknown and number of districts unknown). Government official estimate reflects an adjustment based on a preliminary sub-national coverage survey results. Estimate challenged by: D-R-

2012: Reported data calibrated to 2011 and 2013 levels. Reported data excluded because 103 percent greater than 100 percent. Government official estimate reflects an adjustment

based on survey results. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 55 percent based on 1 survey(s). . Estimate challenged by: D-R-

Chad - DTP3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	33	40	39	36	42	41	41	46	50	52	58	60
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	70	72	70	83	92	78	72	77	81	83	89	91
Administrative	70	82	85	83	92	92	77	77	81	83	89	91
Survey	42	NA	33.2	NA	NA	37	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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

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

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

Description:

2022: Reported data calibrated to 2017 levels. Programme notes challenges with the availability of data recording tools and training of health centre managers in data verification and analysis. Also, data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. WHO and UNICEF recommend a high-quality vaccination coverage survey and encourage the conduction of the national immunization coverage survey planned for 2023. Programme reports a one month vaccine stockout at national and subnational levels. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2017 levels. Reported target population declined between 2019 and 2020. Immunization estimates from MICS survey could not be produced due to an error in data collection. Programme reports district level vaccine stockout of unspecified duration. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported coverage levels continue to suggest challenges within the administrative recording and reporting system. Programme notes that health center managers are insufficiently trained in data verification and analysis and that data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2017: Estimate of 41 percent assigned by working group. Estimate is based on survey result. Decline in reported coverage is due in part to 25 percent increase in target population between 2016 and 2017. Estimate challenged by: D-R-

2016: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 41 percent based on 1 survey(s). Chad Vaccination Coverage Survey 2017 card or history results of 37 percent modifed for recall bias to 41 percent based on 1st dose card or history coverage of 55 percent, 1st dose card only coverage of 24 percent and 3rd dose card only coverage of 18 percent. Reported official estimates inconsistent with administrative data. Estimate challenged by: D-R-

2015: Reported data calibrated to 2013 and 2016 levels. Estimate challenged by: D-R-

2014: Reported data calibrated to 2013 and 2016 levels. In conjunction with intensification of supportive supervision and outreach activities, the programme has established a system of monthly monitoring of performance indicators backed by regular monitoring through additional supportive supervisory visits. A Estimate challenged by: D-R-

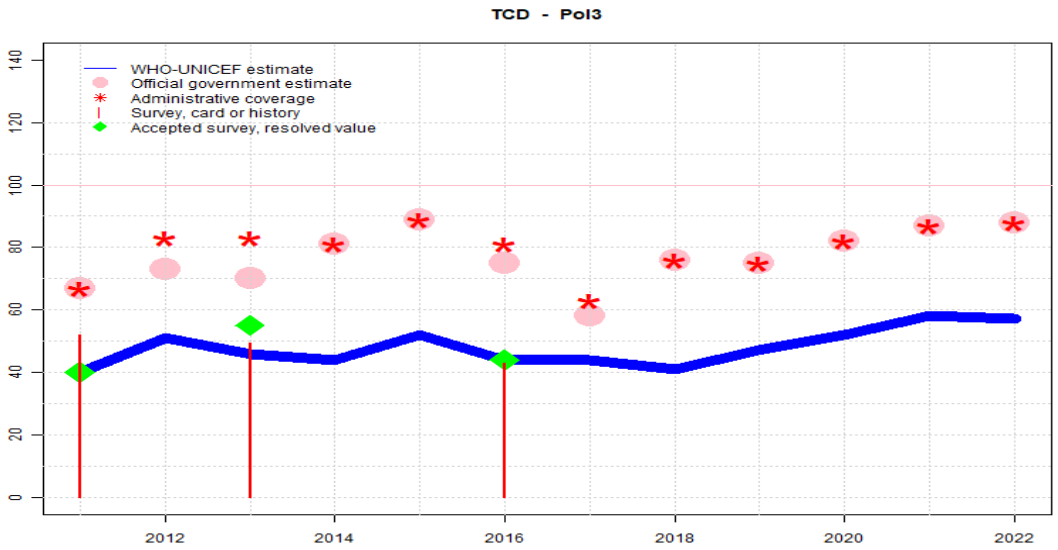
2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 39 percent based on 1 survey(s). Chad Joint DHS and MICS 2015 card or history results of 33 percent modifed for recall bias to 39 percent based on 1st dose card or history coverage of 58 percent, 1st dose card only coverage of 31 percent and 3rd dose card only coverage of 21 percent. Programme reports stockouts for all antigens at the district level (duration unknown and number of districts unknown). Government official estimate reflects an adjustment based on a preliminary sub-national coverage survey

results. Estimate challenged by: D-R-

2012: Reported data calibrated to 2011 and 2013 levels. Government official estimate reflects an adjustment based on survey results. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 33 percent based on 1 survey(s). Chad Vaccination Coverage Survey 2012 card or history results of 42 percent modifed for recall bias to 33 percent based on 1st dose card or history coverage of 55 percent, 1st dose card only coverage of 15 percent and 3rd dose card only coverage of 9 percent. . Estimate challenged by: D-R-

Chad - Pol3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	40	51	46	44	52	44	44	41	47	52	58	57
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	67	73	70	81	89	75	58	76	75	82	87	88
Administrative	67	83	83	81	89	81	63	76	75	82	87	88
Survey	52	NA	49.5	NA	NA	43	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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

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

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

Description:

2022: Estimate informed by the ratio of the reported number of administered Pol3 doses to DTP3 doses applied to the estimated DTP3 coverage level. Programme notes challenges with the availability of data recording tools and training of health centre managers in data verification and analysis. Also, data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. WHO and UNICEF recommend a high-quality vaccination coverage survey and encourage the conduction of the national immunization coverage survey planned for 2023. Estimate challenged by: D-R-

2021: Estimate is based on the ratio of the reported number of administered Pol3 doses to DTP3 doses applied to the estimated DTP3 coverage level. Estimate challenged by: D-R-

2020: Estimate is based on the ratio of the reported number of administered Pol3 doses to DTP3 doses applied to the estimated DTP3 coverage level. Reported target population declined between 2019 and 2020. Immunization estimates from MICS survey could not be produced due to an error in data collection. Estimate challenged by: D-R-

2019: Estimate is based on the ratio of the reported number of administered Pol3 doses to DTP3 doses applied to the estimated DTP3 coverage level. Reported coverage levels continue to suggest challenges within the administrative recording and reporting system. Programme notes that health center managers are insufficiently trained in data verification and analysis and that data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Estimate challenged by: R-

2017: Estimate of 44 percent assigned by working group. Estimate is based on survey result. Reported data excluded due to decline in reported coverage from 81 percent to 58 percent with increase to 76 percent. Decline in reported coverage is due in part to 25 percent increase in target population between 2016 and 2017. Estimate challenged by: D-R-

2016: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 44 percent based on 1 survey(s). Chad Vaccination Coverage Survey 2017 card or history results of 43 percent modifed for recall bias to 44 percent based on 1st dose card or history coverage of 61 percent, 1st dose card only coverage of 22 percent and 3rd dose card only coverage of 16 percent. Programme reports two months national vaccine stockout. Reported official estimates inconsistent with administrative data. Estimate challenged by: D-R-

2015: Reported data calibrated to 2013 and 2016 levels. Estimate challenged by: D-R-

2014: Reported data calibrated to 2013 and 2016 levels. In conjunction with intensification of supportive supervision and outreach activities, the programme has established a system of monthly monitoring of performance indicators backed by regular monitoring through additional supportive supervisory visits. A Estimate challenged by: D-R-S-

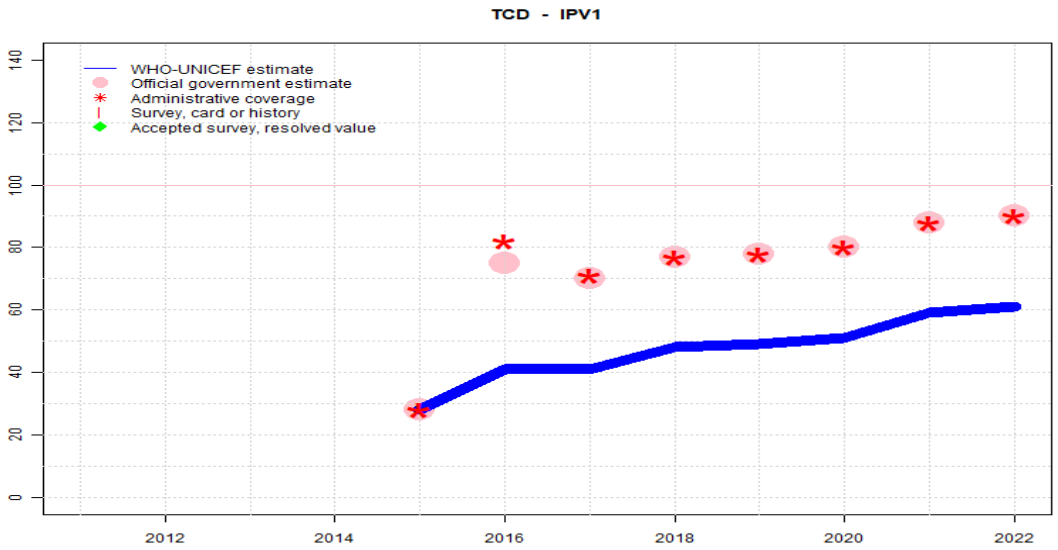
2013: Estimate of 46 percent assigned by working group. Estimate based on DTP3 coverage. Survey results may include OPV campaign doses. Chad Joint DHS and MICS 2015 card or history results of 50 percent modifed for recall bias to 55 percent based on 1st dose

card or history coverage of 76 percent, 1st dose card only coverage of 30 percent and 3rd dose card only coverage of 22 percent. Programme reports stockouts for all antigens at the district level (duration unknown and number of districts unknown). Government official estimate reflects an adjustment based on a preliminary sub-national coverage survey results. Estimate challenged by: D-R-

2012: Reported data calibrated to 2011 and 2013 levels. Government official estimate reflects an adjustment based on survey results. Estimate challenged by: D-R-S-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 40 percent based on 1 survey(s). Chad Vaccination Coverage Survey 2012 card or history results of 52 percent modifed for recall bias to 40 percent based on 1st dose card or history coverage of 68 percent, 1st dose card only coverage of 17 percent and 3rd dose card only coverage of 10 percent. . Estimate challenged by: D-R-S-

Chad - IPV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	28	41	41	48	49	51	59	61
Estimate GoC	NA	NA	NA	NA	•	•	•	•	•	•	•	•
Official	NA	NA	NA	NA	28	75	70	77	78	80	88	90
Administrative	NA	NA	NA	NA	28	82	71	77	78	80	88	90
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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

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

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

Description:

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: Reported data calibrated to 2017 levels. Programme notes challenges with the availability of data recording tools and training of health centre managers in data verification and analysis. Also, data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. WHO and UNICEF recommend a high-quality vaccination coverage survey and encourage the conduction of the national immunization coverage survey planned for 2023. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2017 levels. Reported target population declined between 2019 and 2020. Immunization estimates from MICS survey could not be produced due to an error in data collection. Programme reports district level vaccine stockout of unspecified duration. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported coverage levels continue to suggest challenges within the administrative recording and reporting system. Programme notes that health center managers are insufficiently trained in data verification and analysis and that data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. Estimate challenged by: D-R-

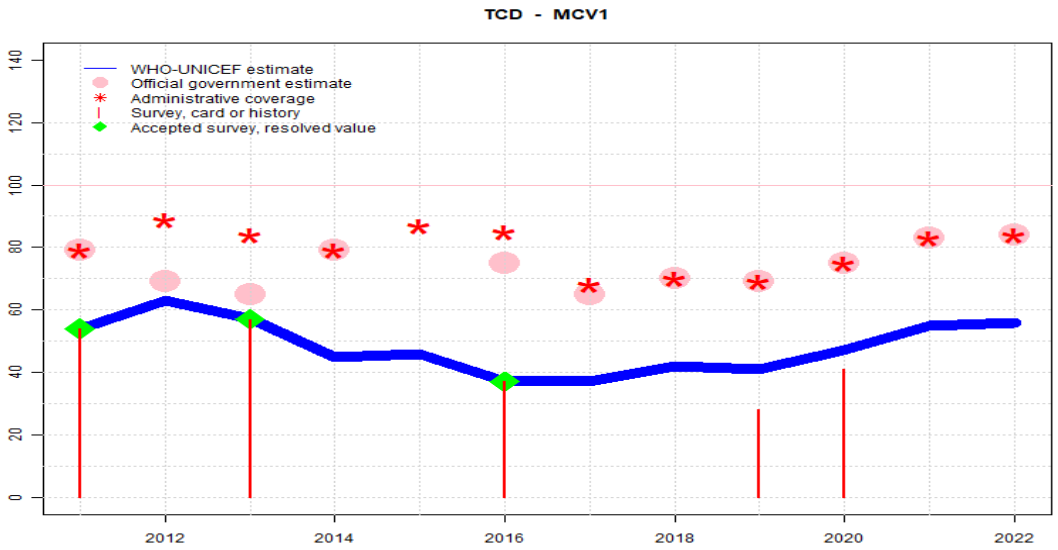
2018: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2017: Estimate of 41 percent assigned by working group. Estimate is based on survey result. Decline in reported coverage is due in part to 25 percent increase in target population between 2016 and 2017. Estimate challenged by: D-R-

2016: Estimate of 41 percent assigned by working group. Estimate based on DTP3 coverage estimate. Reported data excluded due to an increase from 28 percent to 82 percent with decrease 70 percent. Reported official estimates inconsistent with administrative data. Estimate challenged by: D-R-

2015: Inactivated polio vaccine in August 2015. Estimate is exceptionally based on reported data. GoC=Assigned by working group. .

Chad - MCV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	54	63	57	45	46	37	37	42	41	47	55	56
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	79	69	65	79	NA	75	65	70	69	75	83	84
Administrative	79	89	84	79	87	85	68	70	69	75	83	84
Survey	54	NA	56.9	NA	NA	37	NA	NA	28.2	41.1	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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

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

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

Description:

2022: Reported data calibrated to 2017 levels. Programme notes challenges with the availability of data recording tools and training of health centre managers in data verification and analysis. Also, data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. WHO and UNICEF recommend a high-quality vaccination coverage survey and encourage the conduction of the national immunization coverage survey planned for 2023. Programme reports a two months vaccine stockout at national and subnational levels. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2017 levels. Survey results ignored. Sample size 94 less than 300. Reported target population declined between 2019 and 2020. Immunization estimates from MICS survey could not be produced due to an error in data collection. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Evaluation of the Vaccination Campaign Against Measles in Chad 2022 results ignored by working group. Post-campaign coverage survey of older children with low levels of documented evidence. Survey results suggest lower coverage. Reported coverage levels continue to suggest challenges within the administrative recording and reporting system. Programme notes that health center managers are insufficiently trained in data verification and analysis and that data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. Programme reports national and district level vaccine stockout of 1.1 month duration. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Programme reports one month vaccine stockout at national level. Estimate challenged by: D-R-

2017: Estimate of 37 percent assigned by working group. Estimate is based on survey result. Decline in reported coverage is due in part to 25 percent increase in target population between 2016 and 2017. Estimate challenged by: D-R-

2016: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 37 percent based on 1 survey(s). Reported official estimates inconsistent with administrative data. Estimate challenged by: D-R-

2015: Reported data calibrated to 2013 and 2016 levels. Estimate challenged by: D-R-S-

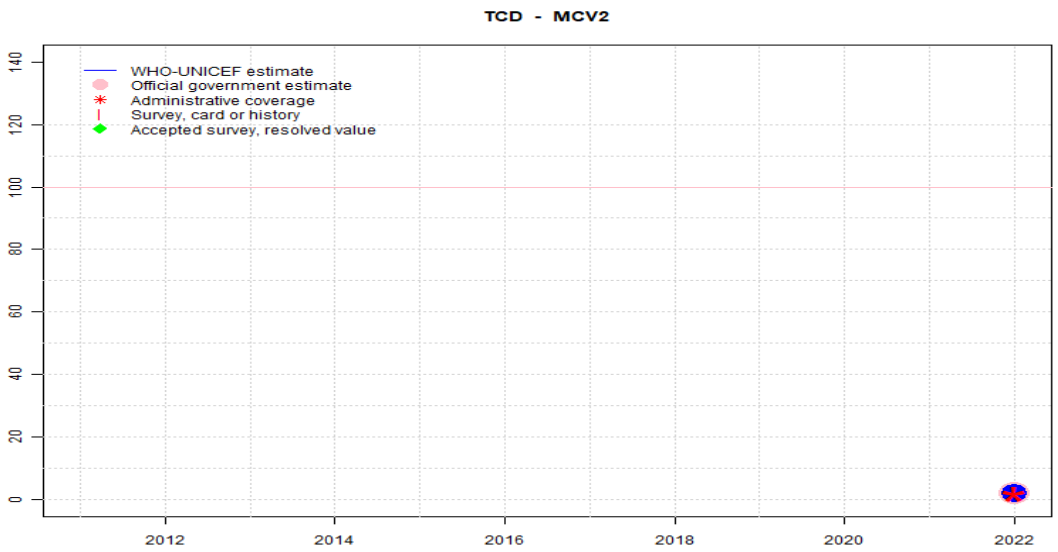
2014: Reported data calibrated to 2013 and 2016 levels. In conjunction with intensification of supportive supervision and outreach activities, the programme has established a system of monthly monitoring of performance indicators backed by regular monitoring through additional supportive supervisory visits. A Estimate challenged by: D-R-S-

2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 57 percent based on 1 survey(s). Programme reports stockouts for all antigens at the district level (duration unknown and number of districts unknown). Government official estimate reflects an adjustment based on a preliminary sub-national coverage survey results. Estimate challenged by: D-R-

2012: Reported data calibrated to 2011 and 2013 levels. Government official estimate reflects an adjustment based on survey results. Estimate challenged by: R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 54 percent based on 1 survey(s). . Estimate challenged by: R-S-

Chad - MCV2



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	●●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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

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

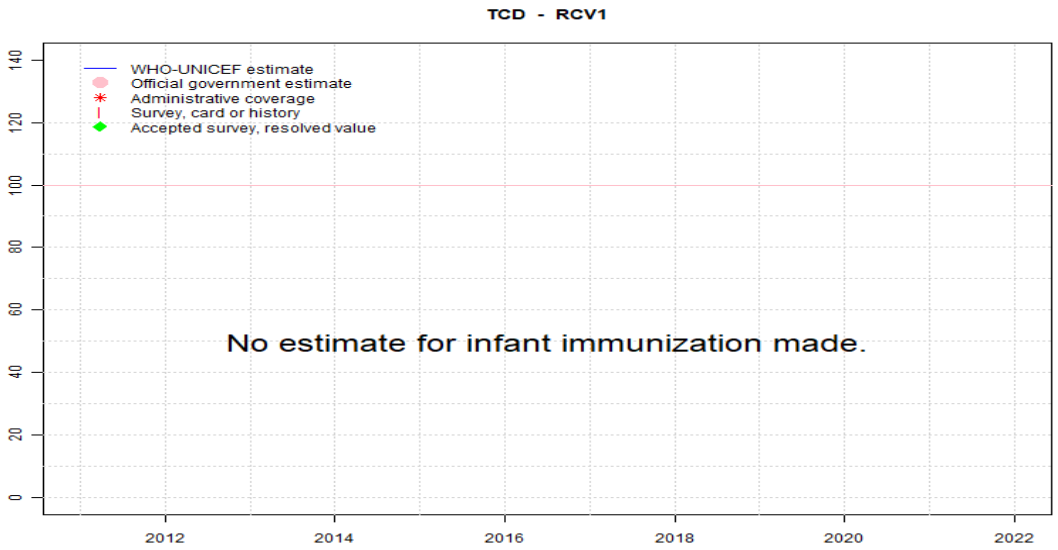
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

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

2022: Estimate informed by reported data. Programme notes challenges with the availability of data recording tools and training of health centre managers in data verification and analysis. Also, data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. WHO and UNICEF recommend a high-quality vaccination coverage survey and encourage the conduction of the national immunization coverage survey planned for 2023. Programme reports a two months vaccine stockout at national and subnational levels. Vaccine dose introduced in October 2021, reporting started in 2022. GoC=R+ D+

Chad - RCV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

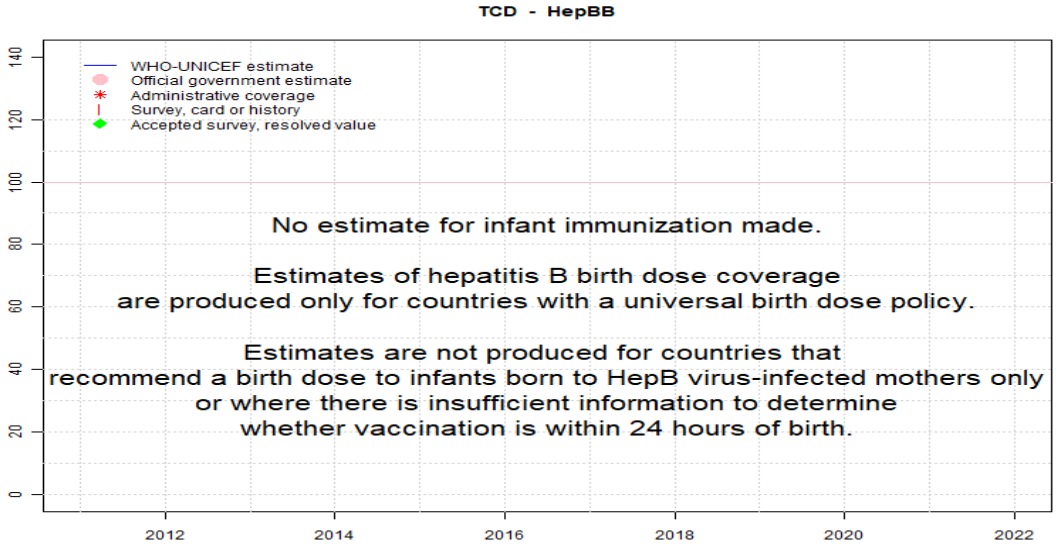
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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.

Chad - HepBB



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

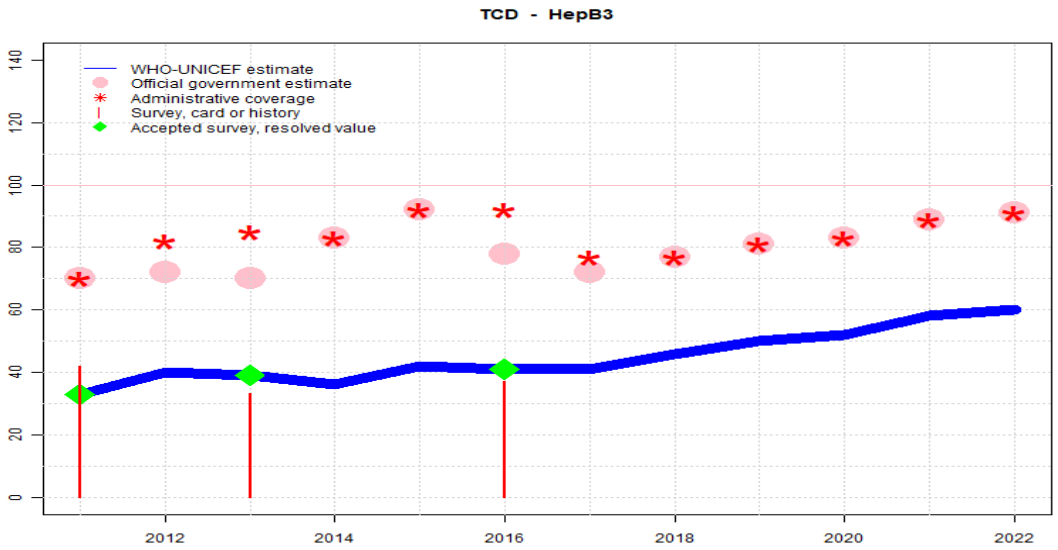
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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.

Chad - HepB3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	33	40	39	36	42	41	41	46	50	52	58	60
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	70	72	70	83	92	78	72	77	81	83	89	91
Administrative	70	82	85	83	92	92	77	77	81	83	89	91
Survey	42	NA	33.2	NA	NA	37	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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

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

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

Description:

2022: Reported data calibrated to 2017 levels. Programme notes challenges with the availability of data recording tools and training of health centre managers in data verification and analysis. Also, data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. WHO and UNICEF recommend a high-quality vaccination coverage survey and encourage the conduction of the national immunization coverage survey planned for 2023. Programme reports a one month vaccine stockout at national and subnational levels. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2017 levels. Reported target population declined between 2019 and 2020. Immunization estimates from MICS survey could not be produced due to an error in data collection. Programme reports district level vaccine stockout of unspecified duration. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported coverage levels continue to suggest challenges within the administrative recording and reporting system. Programme notes that health center managers are insufficiently trained in data verification and analysis and that data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2017: Estimate of 41 percent assigned by working group. Estimate is based on survey result. Decline in reported coverage is due in part to 25 percent increase in target population between 2016 and 2017. Estimate challenged by: D-R-

2016: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 41 percent based on 1 survey(s). Chad Vaccination Coverage Survey 2017 card or history results of 37 percent modifed for recall bias to 41 percent based on 1st dose card or history coverage of 55 percent, 1st dose card only coverage of 24 percent and 3rd dose card only coverage of 18 percent. Reported official estimates inconsistent with administrative data. Estimate challenged by: D-R-

2015: Reported data calibrated to 2013 and 2016 levels. Estimate challenged by: D-R-

2014: Reported data calibrated to 2013 and 2016 levels. In conjunction with intensification of supportive supervision and outreach activities, the programme has established a system of monthly monitoring of performance indicators backed by regular monitoring through additional supportive supervisory visits. A Estimate challenged by: D-R-

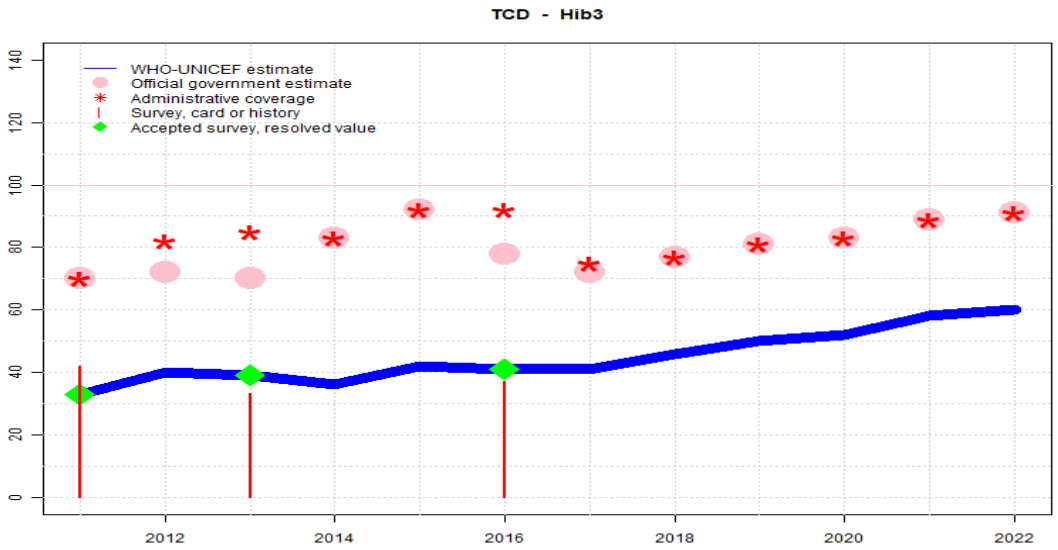
2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 39 percent based on 1 survey(s). Chad Joint DHS and MICS 2015 card or history results of 33 percent modifed for recall bias to 39 percent based on 1st dose card or history coverage of 58 percent, 1st dose card only coverage of 31 percent and 3rd dose card only coverage of 21 percent. Programme reports stockouts for all antigens at the district level (duration unknown and number of districts unknown). Government official estimate reflects an adjustment based on a preliminary sub-national coverage survey

results. Estimate challenged by: D-R-

2012: Reported data calibrated to 2011 and 2013 levels. Government official estimate reflects an adjustment based on survey results. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 33 percent based on 1 survey(s). Chad Vaccination Coverage Survey 2012 card or history results of 42 percent modifed for recall bias to 33 percent based on 1st dose card or history coverage of 55 percent, 1st dose card only coverage of 15 percent and 3rd dose card only coverage of 9 percent. . Estimate challenged by: D-R-S-

Chad - Hib3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	33	40	39	36	42	41	41	46	50	52	58	60
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	70	72	70	83	92	78	72	77	81	83	89	91
Administrative	70	82	85	83	92	92	75	77	81	83	89	91
Survey	42	NA	33.2	NA	NA	37	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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

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

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

Description:

2022: Reported data calibrated to 2017 levels. Programme notes challenges with the availability of data recording tools and training of health centre managers in data verification and analysis. Also, data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. WHO and UNICEF recommend a high-quality vaccination coverage survey and encourage the conduction of the national immunization coverage survey planned for 2023. Programme reports a one month vaccine stockout at national and subnational levels. Estimate challenged by: D-R-

2021: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2020: Reported data calibrated to 2017 levels. Reported target population declined between 2019 and 2020. Immunization estimates from MICS survey could not be produced due to an error in data collection. Programme reports district level vaccine stockout of unspecified duration. Estimate challenged by: D-R-

2019: Reported data calibrated to 2017 levels. Reported coverage levels continue to suggest challenges within the administrative recording and reporting system. Programme notes that health center managers are insufficiently trained in data verification and analysis and that data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. Estimate challenged by: D-R-

2018: Reported data calibrated to 2017 levels. Estimate challenged by: D-R-

2017: Estimate of 41 percent assigned by working group. Estimate is based on survey result. Decline in reported coverage is due in part to 25 percent increase in target population between 2016 and 2017. Estimate challenged by: D-R-

2016: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 41 percent based on 1 survey(s). Chad Vaccination Coverage Survey 2017 card or history results of 37 percent modifed for recall bias to 41 percent based on 1st dose card or history coverage of 55 percent, 1st dose card only coverage of 24 percent and 3rd dose card only coverage of 18 percent. Reported official estimates inconsistent with administrative data. Estimate challenged by: D-R-

2015: Reported data calibrated to 2013 and 2016 levels. Estimate challenged by: D-R-

2014: Reported data calibrated to 2013 and 2016 levels. In conjunction with intensification of supportive supervision and outreach activities, the programme has established a system of monthly monitoring of performance indicators backed by regular monitoring through additional supportive supervisory visits. A Estimate challenged by: D-R-

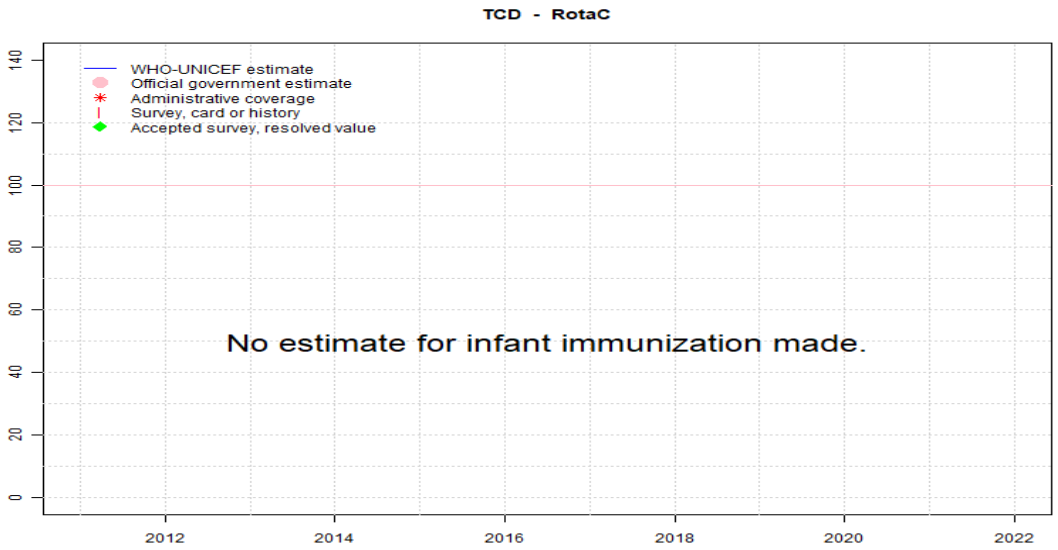
2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 39 percent based on 1 survey(s). Chad Joint DHS and MICS 2015 card or history results of 33 percent modifed for recall bias to 39 percent based on 1st dose card or history coverage of 58 percent, 1st dose card only coverage of 31 percent and 3rd dose card only coverage of 21 percent. Programme reports stockouts for all antigens at the district level (duration unknown and number of districts unknown). Government official estimate reflects an adjustment based on a preliminary sub-national coverage survey

results. Estimate challenged by: D-R-

2012: Reported data calibrated to 2011 and 2013 levels. Government official estimate reflects an adjustment based on survey results. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 33 percent based on 1 survey(s). Chad Vaccination Coverage Survey 2012 card or history results of 42 percent modifed for recall bias to 33 percent based on 1st dose card or history coverage of 55 percent, 1st dose card only coverage of 15 percent and 3rd dose card only coverage of 9 percent. . Estimate challenged by: D-R-

Chad - RotaC



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

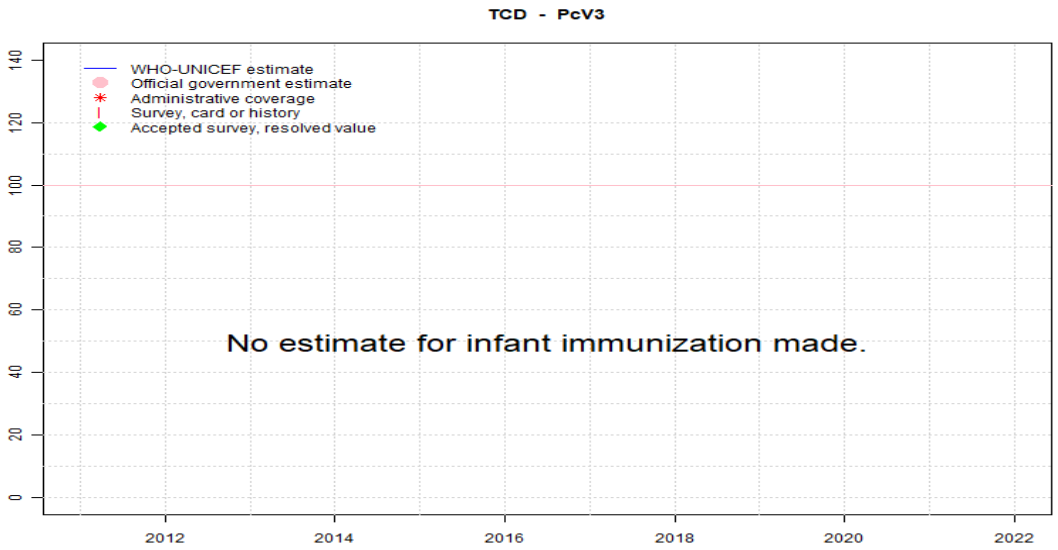
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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.

Chad - PcV3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

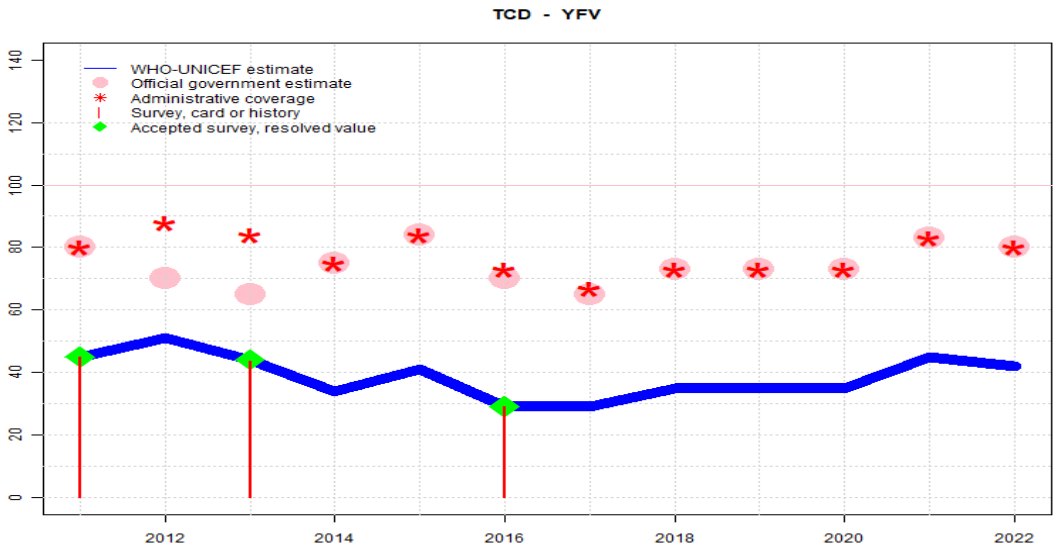
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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.

Chad - YFV



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	45	51	44	34	41	29	29	35	35	35	45	42
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	80	70	65	75	84	70	65	73	73	73	83	80
Administrative	80	88	84	75	84	73	67	73	73	73	83	80
Survey	45	NA	43.5	NA	NA	29	NA	NA	NA	NA	NA	NA

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

●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk of being wrong.

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

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

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

Description:

2022: Reported data calibrated to 2018 levels. Programme notes challenges with the availability of data recording tools and training of health centre managers in data verification and analysis. Also, data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. WHO and UNICEF recommend a high-quality vaccination coverage survey and encourage the conduction of the national immunization coverage survey planned for 2023. Programme reports a one month vaccine stockout at national and subnational levels. Estimate challenged by: D-R-

2021: Reported data calibrated to 2018 levels. Programme reports one-half month vaccine stockout at national level. Estimate challenged by: D-R-

2020: Reported data calibrated to 2018 levels. Reported target population declined between 2019 and 2020. Immunization estimates from MICS survey could not be produced due to an error in data collection. Estimate challenged by: D-R-

2019: Reported data calibrated to 2018 levels. Reported coverage levels continue to suggest challenges within the administrative recording and reporting system. Programme notes that health center managers are insufficiently trained in data verification and analysis and that data review and validation meetings are not systematically held at all levels. WHO and UNICEF encourage continued efforts to improve recording and monitoring while also increasing coverage. Programme reports national and district level vaccine stockout of less than one month duration. Estimate challenged by: D-R-

2018: Estimate of 35 percent assigned by working group. Estimates based on trends seen in reported data between 2017 and 2018. Programme reports one month vaccine stockout at national level. Estimate challenged by: D-R-

2017: Estimate of 29 percent assigned by working group. Estimate is based on survey result. Reported data excluded. Estimate based on prior year estimate consistent with other vaccines. Decline in reported coverage is due in part to 25 percent increase in target population between 2016 and 2017. Estimate challenged by: D-R-

2016: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 29 percent based on 1 survey(s). Reported official estimates inconsistent with administrative data. Estimate challenged by: D-R-

2015: Reported data calibrated to 2013 and 2016 levels. Estimate challenged by: D-R-S-

2014: Reported data calibrated to 2013 and 2016 levels. In conjunction with intensification of supportive supervision and outreach activities, the programme has established a system of monthly monitoring of performance indicators backed by regular monitoring through additional supportive supervisory visits. A National programme reports two months stockout at national level. Estimate challenged by: D-R-

2013: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 44 percent based on 1 survey(s). Programme reports stockouts for all antigens at the district level (duration unknown and number of districts unknown). Government official estimate reflects an adjustment based on a preliminary sub-national coverage survey results. Estimate challenged by: D-R-

Chad - YFV

2012: Reported data calibrated to 2011 and 2013 levels. Government official estimate reflects an adjustment based on survey results. Estimate challenged by: D-R-

2011: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 45 percent based on 1 survey(s). . Estimate challenged by: D-R-S-

Chad - survey details

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.

2020 Evaluation de la Campagne de Vaccination contre la Rougeole au Tchad 2022

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	Card	2.5	12-23 m	94	11
MCV1	Card or History	41.1	12-23 m	94	11
MCV1	History	38.6	12-23 m	94	11

2019 Evaluation de la Campagne de Vaccination contre la Rougeole au Tchad 2022

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	Card	1.9	24-35 m	3111	11
MCV1	Card or History	28.2	24-35 m	3111	11
MCV1	History	23.6	24-35 m	3111	11

2018 Evaluation de la Campagne de Vaccination contre la Rougeole au Tchad 2022

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	Card	2.5	36-47 m	3995	11
MCV1	Card or History	26.5	36-47 m	3995	11
MCV1	History	24	36-47 m	3995	11

2017 Evaluation de la Campagne de Vaccination contre la Rougeole au Tchad 2022

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	Card	1.9	48-59 m	2744	11
MCV1	Card or History	21.9	48-59 m	2744	11
MCV1	History	20	48-59 m	2744	11

2016 Evaluation de la Campagne de Vaccination contre la Rougeole au Tchad 2022

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	Card	1.7	60-71 m	1399	11
MCV1	Card or History	17.4	60-71 m	1399	11
MCV1	History	15.7	60-71 m	1399	11

2016 L'Enquête de Couverture Vaccinale, Tchad, 2017

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	23	12-23 m	10083	28
BCG	Card or History	59	12-23 m	10083	28
DTP1	Card	24	12-23 m	10083	28
DTP1	Card or History	55	12-23 m	10083	28
DTP3	Card	18	12-23 m	10083	28
DTP3	Card or History	37	12-23 m	10083	28
HepB1	Card	24	12-23 m	10083	28
HepB1	Card or History	55	12-23 m	10083	28
HepB3	Card	18	12-23 m	10083	28
HepB3	Card or History	37	12-23 m	10083	28
Hib1	Card	24	12-23 m	10083	28
Hib1	Card or History	55	12-23 m	10083	28
Hib3	Card	18	12-23 m	10083	28
Hib3	Card or History	37	12-23 m	10083	28
MCV1	Card	15	12-23 m	10083	28
MCV1	Card or History	37	12-23 m	10083	28

Pol1	Card	22	12-23 m	10083	28
Pol1	Card or History	61	12-23 m	10083	28
Pol3	Card	16	12-23 m	10083	28
Pol3	Card or History	43	12-23 m	10083	28
YFV	Card	13	12-23 m	10083	28
YFV	Card or History	29	12-23 m	10083	28

2015 Evaluation de la Campagne de Vaccination contre la Rougeole au Tchad 2022

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	Card	0.8	72-76 m	257	11
MCV1	Card or History	14.9	72-76 m	257	11
MCV1	History	14.1	72-76 m	257	11

2013 Enquete demographique et de sante et a indicateurs multiples au Tchad 2014-15

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	55.2	12-23 m	2953	32
BCG	Card	29.3	12-23 m	954	32
BCG	Card or History	59.6	12-23 m	2953	32
DTP1	C or H <12 months	53.4	12-23 m	2953	32
DTP1	Card	30.5	12-23 m	954	32
DTP1	Card or History	58.3	12-23 m	2953	32
DTP3	C or H <12 months	28.4	12-23 m	2953	32
DTP3	Card	20.5	12-23 m	954	32
DTP3	Card or History	33.2	12-23 m	2953	32
HepB1	C or H <12 months	53.4	12-23 m	2953	32
HepB1	Card	30.5	12-23 m	954	32
HepB1	Card or History	58.3	12-23 m	2953	32
HepB3	C or H <12 months	28.4	12-23 m	2953	32
HepB3	Card	20.5	12-23 m	954	32
HepB3	Card or History	33.2	12-23 m	2953	32
Hib1	C or H <12 months	53.4	12-23 m	2953	32
Hib1	Card	30.5	12-23 m	954	32
Hib1	Card or History	58.3	12-23 m	2953	32
Hib3	C or H <12 months	28.4	12-23 m	2953	32
Hib3	Card	20.5	12-23 m	954	32
Hib3	Card or History	33.2	12-23 m	2953	32
MCV1	C or H <12 months	39.8	12-23 m	2953	32
MCV1	Card	24.7	12-23 m	954	32
MCV1	Card or History	56.9	12-23 m	2953	32
Pol1	C or H <12 months	70.4	12-23 m	2953	32
Pol1	Card	30.1	12-23 m	954	32
Pol1	Card or History	76.3	12-23 m	2953	32
Pol3	C or H <12 months	42.6	12-23 m	2953	32
Pol3	Card	21.6	12-23 m	954	32
Pol3	Card or History	49.5	12-23 m	2953	32
YFV	C or H <12 months	31.9	12-23 m	2953	32
YFV	Card	19.4	12-23 m	954	32
YFV	Card or History	43.5	12-23 m	2953	32

2012 Enquete demographique et de sante et a indicateurs multiples au Tchad 2014-15

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	50.6	24-35 m	3232	32
DTP1	C or H <12 months	43.8	24-35 m	3232	32
DTP3	C or H <12 months	25	24-35 m	3232	32
HepB1	C or H <12 months	43.8	24-35 m	3232	32
HepB3	C or H <12 months	25	24-35 m	3232	32
Hib1	C or H <12 months	43.8	24-35 m	3232	32
Hib3	C or H <12 months	25	24-35 m	3232	32
MCV1	C or H <12 months	30.8	24-35 m	3232	32
Pol1	C or H <12 months	61	24-35 m	3232	32
Pol3	C or H <12 months	41.8	24-35 m	3232	32

2011 L'Enquête de Couverture Vaccinale, Tchad, 2012

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	27	12-23 m	7343	41
BCG	Card	57	12-23 m	-	41
BCG	Card or History	68	12-23 m	7343	41
DTP1	C or H <12 months	32	12-23 m	7343	41

DTP1	Card	15	12-23 m	-	41
DTP1	Card or History	55	12-23 m	7343	41
DTP3	C or H <12 months	14	12-23 m	7343	41
DTP3	Card	9	12-23 m	-	41
DTP3	Card or History	42	12-23 m	7343	41
HepB1	C or H <12 months	32	12-23 m	7343	41
HepB1	Card	15	12-23 m	-	41
HepB1	Card or History	55	12-23 m	7343	41
HepB3	C or H <12 months	14	12-23 m	7343	41
HepB3	Card	9	12-23 m	-	41
HepB3	Card or History	42	12-23 m	7343	41
Hib1	C or H <12 months	32	12-23 m	7343	41
Hib1	Card	15	12-23 m	-	41
Hib1	Card or History	55	12-23 m	7343	41
Hib3	C or H <12 months	14	12-23 m	7343	41
Hib3	Card	9	12-23 m	-	41
Hib3	Card or History	42	12-23 m	7343	41
MCV1	C or H <12 months	18	12-23 m	7343	41
MCV1	Card	13	12-23 m	-	41
MCV1	Card or History	54	12-23 m	7343	41
Pol1	C or H <12 months	39	12-23 m	7343	41
Pol1	Card	17	12-23 m	-	41
Pol1	Card or History	68	12-23 m	7343	41
Pol3	C or H <12 months	17	12-23 m	7343	41
Pol3	Card	10	12-23 m	-	41
Pol3	Card or History	52	12-23 m	7343	41
YFV	C or H <12 months	24	12-23 m	7343	41
YFV	Card	9	12-23 m	-	41
YFV	Card or History	45	12-23 m	7343	41

2009 Enquête par grappes à indicateurs multiples MICS Tchad 2010

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	43.8	12-23 m	-	21
BCG	Card	16.2	12-23 m	-	21
BCG	Card or History	46.5	12-23 m	2932	21
BCG	History	30.3	12-23 m	-	21
DTP1	C or H <12 months	42	12-23 m	-	21
DTP1	Card	19.1	12-23 m	-	21
DTP1	Card or History	45.4	12-23 m	2932	21
DTP1	History	26.3	12-23 m	-	21
DTP3	C or H <12 months	15.5	12-23 m	-	21
DTP3	Card	10.5	12-23 m	-	21
DTP3	Card or History	19.7	12-23 m	2932	21
DTP3	History	9.2	12-23 m	-	21
HepB1	C or H <12 months	32.5	12-23 m	-	21
HepB1	Card	19.4	12-23 m	-	21
HepB1	Card or History	35.2	12-23 m	2932	21
HepB1	History	15.8	12-23 m	-	21
HepB3	C or H <12 months	11.1	12-23 m	-	21
HepB3	Card	10.6	12-23 m	-	21
HepB3	Card or History	14.1	12-23 m	2932	21
HepB3	History	3.4	12-23 m	-	21
MCV1	C or H <12 months	30.1	12-23 m	-	21
MCV1	Card	12.5	12-23 m	-	21
MCV1	Card or History	36	12-23 m	2932	21
MCV1	History	23.5	12-23 m	-	21
Pol1	C or H <12 months	56.4	12-23 m	-	21
Pol1	Card	18.8	12-23 m	-	21
Pol1	Card or History	61.3	12-23 m	2932	21
Pol1	History	42.5	12-23 m	-	21
Pol3	C or H <12 months	25	12-23 m	-	21
Pol3	Card	10.3	12-23 m	-	21
Pol3	Card or History	31.8	12-23 m	2932	21
Pol3	History	21.5	12-23 m	-	21
YFV	C or H <12 months	25.5	12-23 m	-	21
YFV	Card	10.1	12-23 m	-	21
YFV	Card or History	32	12-23 m	2932	21
YFV	History	21.9	12-23 m	-	21

2003 L'Enquête Démographique et de Santé au Tchad, 2004

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	36.5	12-23 m	941	24
BCG	Card	20.3	12-23 m	941	24
BCG	Card or history	40.2	12-23 m	941	24
BCG	History	19.9	12-23 m	941	24
DTP1	C or H <12 months	41.5	12-23 m	941	24

Chad - survey details

DTP1	Card	23.6	12-23 m	941	24
DTP1	Card or history	44.6	12-23 m	941	24
DTP1	History	21	12-23 m	941	24
DTP3	C or H <12 months	15.9	12-23 m	941	24
DTP3	Card	11.6	12-23 m	941	24
DTP3	Card or history	20.1	12-23 m	941	24
DTP3	History	8.5	12-23 m	941	24
MCV1	C or H <12 months	14.8	12-23 m	941	24
MCV1	Card	13.6	12-23 m	941	24
MCV1	Card or history	22.8	12-23 m	941	24
MCV1	History	9.2	12-23 m	941	24
Pol1	C or H <12 months	73.1	12-23 m	941	24
Pol1	Card	23	12-23 m	941	24
Pol1	Card or history	78	12-23 m	941	24
Pol1	History	55	12-23 m	941	24
Pol3	C or H <12 months	28.1	12-23 m	941	24
Pol3	Card	12.3	12-23 m	941	24
Pol3	Card or history	35.5	12-23 m	941	24
Pol3	History	23.2	12-23 m	941	24
YFV	C or H <12 months	14.1	12-23 m	941	24
YFV	Card	13.5	12-23 m	941	24
YFV	Card or history	20.2	12-23 m	941	24
YFV	History	6.7	12-23 m	941	24

2001 République du Tchad, Revue du Programme Elargi de Vaccination, 2002

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	51.5	12-23 m	3159	39
DTP1	Card or History	44	12-23 m	3159	39
DTP3	Card or History	25.5	12-23 m	3159	39
MCV1	Card or History	26	12-23 m	3159	39
Pol1	Card or History	45.2	12-23 m	3159	39
Pol3	Card or History	26	12-23 m	3159	39

1999 République du Tchad, Enquête de grappes à indicateurs multiples, Rapport complet, 2000

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	42	12-23 m	873	23
BCG	Card	9.8	12-23 m	873	23
BCG	Card or History	45.4	12-23 m	873	23
BCG	History	35.6	12-23 m	873	23
DTP1	C or H <12 months	42.8	12-23 m	873	23
DTP1	Card	9.8	12-23 m	873	23
DTP1	Card or History	45.1	12-23 m	873	23
DTP1	History	35.3	12-23 m	873	23
DTP3	C or H <12 months	17.3	12-23 m	873	23
DTP3	Card	10.5	12-23 m	873	23
DTP3	Card or History	20.7	12-23 m	873	23
DTP3	History	10.2	12-23 m	873	23
MCV1	C or H <12 months	24.5	12-23 m	873	23
MCV1	Card	5.7	12-23 m	873	23
MCV1	Card or History	29.7	12-23 m	873	23
MCV1	History	24	12-23 m	873	23
Pol1	C or H <12 months	85.5	12-23 m	873	23
Pol1	Card	1.8	12-23 m	873	23
Pol1	Card or History	90.2	12-23 m	873	23
Pol1	History	88.4	12-23 m	873	23
Pol3	C or H <12 months	42.3	12-23 m	873	23
Pol3	Card	5.6	12-23 m	873	23
Pol3	Card or History	50.6	12-23 m	873	23
Pol3	History	45	12-23 m	873	23
YFV	C or H <12 months	27.3	12-23 m	873	23
YFV	Card	6.9	12-23 m	873	23
YFV	Card or History	30.9	12-23 m	873	23
YFV	History	24	12-23 m	873	23

Chad - survey details

Further information and estimates for previous years are available at:
https://data.unicef.org/topic/child-health/immunization/
https://immunizationdata.who.int/listing.html