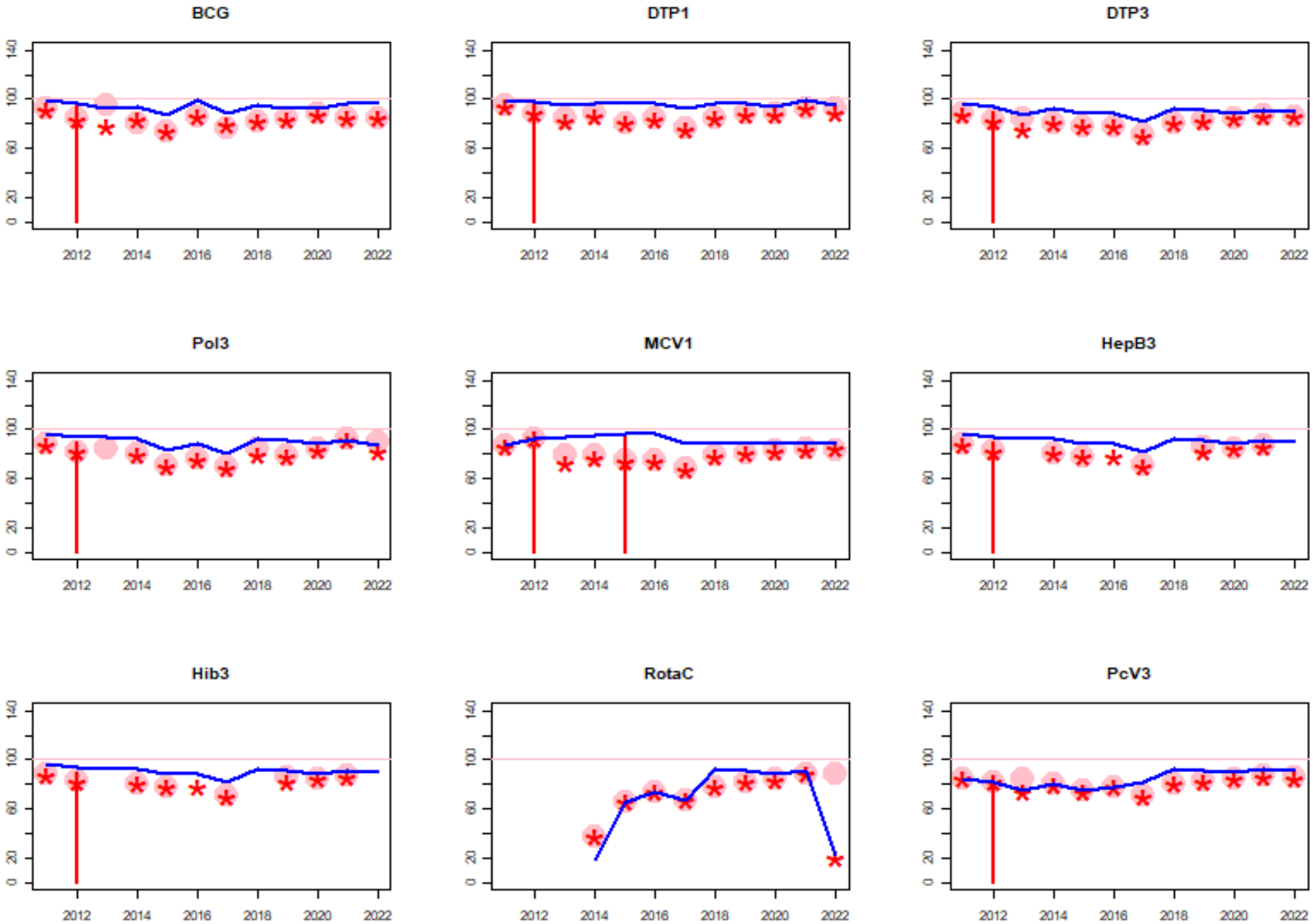

BCG
DTP1
DTP3
Pol3
MCV1
HepB3
Hib3
RotaC
PcV3
0
20
60
100
140
2012
2014
2016
2018
2020
2022

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

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

*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.

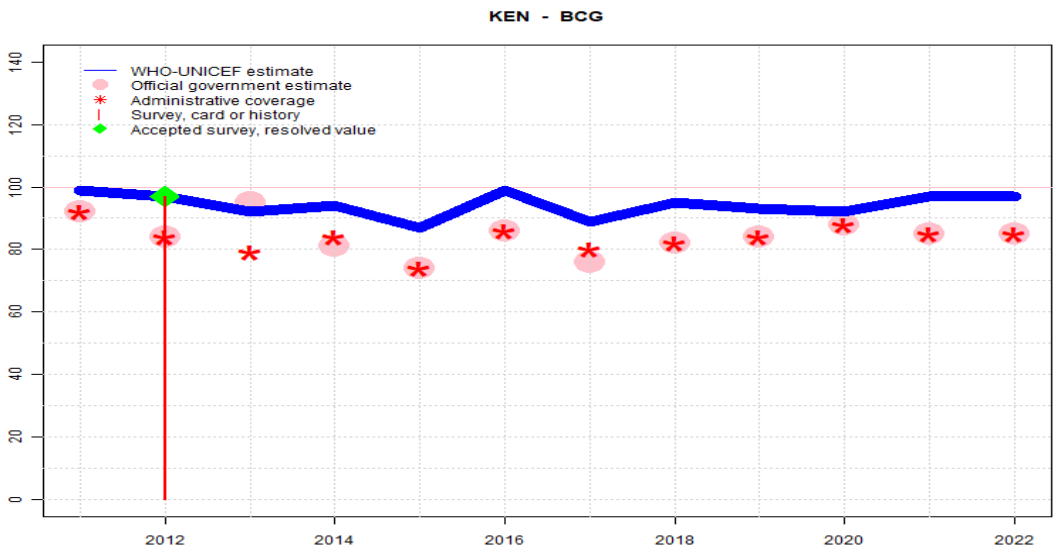
Hib3: percentage of surviving infants who received the 3rd dose of Haemophilus influenzae type b containing vaccine.

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.

Kenya - BCG



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	99	97	92	94	87	99	89	95	93	92	97	97
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	92	84	95	81	74	86	76	82	84	88	85	85
Administrative	92	84	79	84	74	86	80	82	84	88	85	85
Survey	NA	97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

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

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

Description:

2022: Estimated coverage is based on the trend in reported coverage from 2021 to 2022 applied to the prior year estimated coverage. BCG estimated at 97 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. WHO and UNICEF await the final survey results. Estimate challenged by: R-

2021: Estimate reflects relative increase in the number of reported doses administered from the prior year applied to the prior year estimated coverage level. Reported number of births increased 9 percent from reported values for 2020, an exceptionally large year-to-year increase that warrants review. Programme reports less than one month vaccine stockout at national level. Estimate challenged by: R-

2020: Estimate based on difference in administered doses reported between 2019 and 2020 applied to the 2019 estimate. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Estimate challenged by: R-

2019: Estimate based on difference in administered doses reported between 2018 and 2019 applied to the 2018 estimate. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Programme reports five months vaccine stockout. Estimate challenged by: R-

2018: Reported data calibrated to 2012 levels. Programme reports one month vaccine stockout at the national level. Estimate challenged by: R-

2017: Reported data calibrated to 2012 levels. Programme reports one month vaccine stockout. Estimate challenged by: R-

2016: Reported data calibrated to 2012 levels. Programme reports one month national level stockout. Estimate challenged by: R-

2015: Reported data calibrated to 2012 levels. Programme reports two months national level stockout. Estimate challenged by: R-

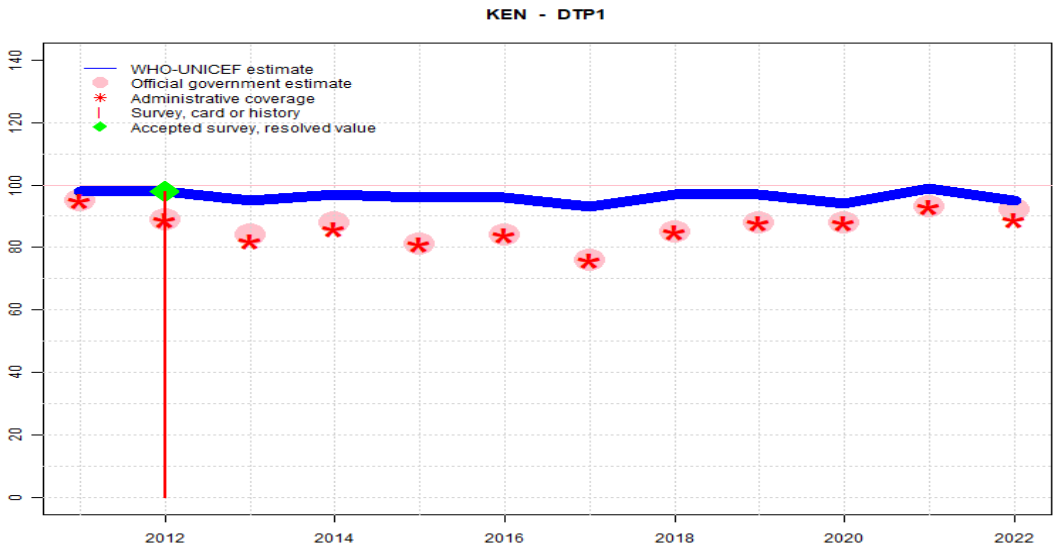
2014: Reported data calibrated to 2012 levels. Estimate challenged by: R-

2013: Reported data calibrated to 2012 levels. Reported year to year change in number of births between 2012 and 2013 is significantly higher than in previous years. Insufficient explanation of methods and data sources used to derive government official estimates. Estimate challenged by: R-

2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 97 percent based on 1 survey(s). Two-month vaccine shortage reported. Estimate challenged by: D-R-

2011: Reported data calibrated to 2007 and 2012 levels. Estimate challenged by: D-R-

Kenya - DTP1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	98	98	95	97	96	96	93	97	97	94	99	95
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	95	89	84	88	81	84	76	85	88	88	93	92
Administrative	95	89	82	86	81	84	76	85	88	88	93	89
Survey	NA	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

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

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

Description:

2022: Estimated coverage is based on the trend in reported coverage from 2021 to 2022 applied to the prior year estimated coverage. DTP1 estimated at 97 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. WHO and UNICEF await the final survey results. Estimate challenged by: R-

2021: Estimate reflects relative increase in the number of reported doses administered from the prior year applied to the prior year estimated coverage level. Estimate challenged by: R-

2020: Estimate based on difference in administered doses reported between 2019 and 2020 applied to the 2019 estimate. Programme reports a vaccine stockout at national and subnational levels of less than one month. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Estimate challenged by: R-

2019: Estimate based on difference in administered doses reported between 2018 and 2019 applied to the 2018 estimate. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Programme reports five months vaccine stockout. Estimate challenged by: R-

2018: DTP1 coverage estimated based on DTP3 coverage of 92. Estimate challenged by: R-

2017: DTP1 coverage estimated based on DTP3 coverage of 82. Estimate challenged by: R-

2016: DTP1 coverage estimated based on DTP3 coverage of 89. Estimate challenged by: R-

2015: DTP1 coverage estimated based on DTP3 coverage of 89. Estimate challenged by: R-

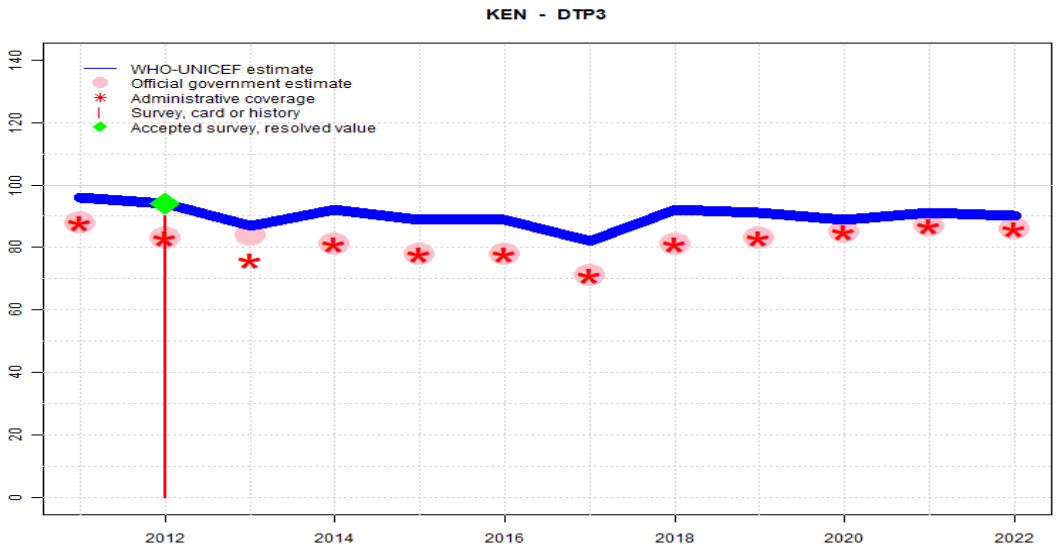
2014: DTP1 coverage estimated based on DTP3 coverage of 92. Estimate challenged by: R-

2013: DTP1 coverage estimated based on DTP3 coverage of 87. Insufficient explanation of methods and data sources used to derive government official estimates. Estimate challenged by: R-

2012: DTP1 coverage estimated based on DTP3 coverage of 94. One-month vaccine shortage reported. Estimate challenged by: D-R-

2011: DTP1 coverage estimated based on DTP3 coverage of 96. Estimate challenged by: D-R-

Kenya - DTP3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	96	94	87	92	89	89	82	92	91	89	91	90
Estimate GoC	•	•	•	•	•	•	•	•	•	•	•	•
Official	88	83	84	81	78	78	71	81	83	85	87	86
Administrative	88	83	76	81	78	78	71	81	83	85	87	86
Survey	NA	90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

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

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

Description:

2022: Estimated coverage is based on the trend in reported coverage from 2021 to 2022 applied to the prior year estimated coverage. DTP3 estimated at 89 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. WHO and UNICEF await the final survey results. Estimate challenged by: R-

2021: Estimate reflects relative increase from the prior year in the number of reported doses administered applied to the prior year estimated coverage level. Estimate challenged by: R-

2020: Estimate based on difference in administered doses reported between 2019 and 2020 applied to the 2019 estimate. Programme reports a vaccine stockout at national and subnational levels of less than one month. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Estimate challenged by: R-

2019: Estimate based on difference in administered doses reported between 2018 and 2019 applied to the 2018 estimate. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Programme reports five months vaccine stockout. Estimate challenged by: R-

2018: Reported data calibrated to 2012 levels. Increase in reported coverage from 2017 to 2018 is exceptionally large at such high levels of coverage. Estimated coverage for 2018 may represent an overestimation. Estimate challenged by: R-

2017: Reported data calibrated to 2012 levels. Estimate challenged by: R-

2016: Reported data calibrated to 2012 levels. Estimate challenged by: R-

2015: Reported data calibrated to 2012 levels. Estimate challenged by: R-

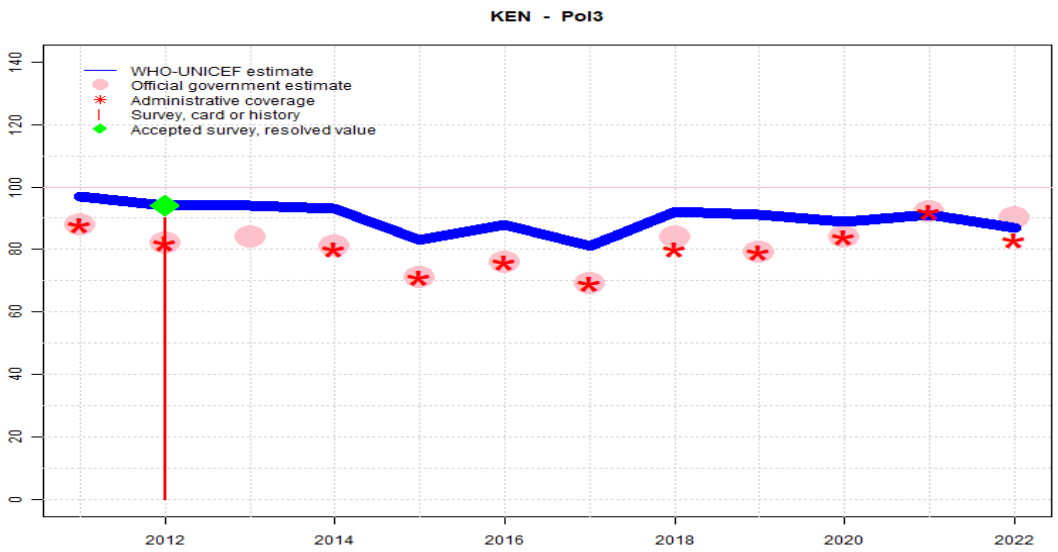
2014: Reported data calibrated to 2012 levels. Estimate challenged by: R-

2013: Reported data calibrated to 2012 levels. Insufficient explanation of methods and data sources used to derive government official estimates. Estimate challenged by: R-

2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 94 percent based on 1 survey(s). Kenya Demographic and Health Survey, 2014 card or history results of 90 percent modifed for recall bias to 94 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 74 percent and 3rd dose card only coverage of 71 percent. One-month vaccine shortage reported. Estimate challenged by: D-R-

2011: Reported data calibrated to 2007 and 2012 levels. Estimate challenged by: D-R-

Kenya - Pol3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	97	94	94	93	83	88	81	92	91	89	91	87
Estimate GoC	•	•	••	•	•	•	•	•	•	•	•	•
Official	88	82	84	81	71	76	69	84	79	84	92	90
Administrative	88	82	NA	80	71	76	69	80	79	84	92	83
Survey	NA	90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

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

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

Description:

2022: Estimated coverage is based on the relative difference between estimated DTP3 coverage and reported administrative coverage applied to the reported administrative coverage for Pol3. There are unexplained and unique differences in the reported coverage data between DTP3 and Pol3 the prior several years. Programme reports 3.8 months vaccine stockout at national and subnational levels. Pol3 estimated at 78 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. Estimate challenged by: R-

2021: Estimate based on estimated DTP3 coverage level. The relative increase from the prior year in the number of reported doses administered was 6 percent, greater than that for DTP3 and likely reflects polio intensification activities. Programme reports two months vaccine stockout at national and subnational levels. Estimate challenged by: R-

2020: Estimate based on DTP3 estimate. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Programme reports a vaccine stockout at national and subnational levels of less than one month. Estimate challenged by: R-

2019: Estimate based on DTP3 estimate. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Programme reports three months vaccine stockout. Estimate challenged by: R-

2018: Estimate is based on estimated DTP3 level following a review of the number of doses administered. Programme reports two months vaccine stockout at the national level. Estimate challenged by: R-

2017: Reported data calibrated to 2012 levels. Estimate challenged by: R-

2016: Reported data calibrated to 2012 levels. Estimate challenged by: R-

2015: Reported data calibrated to 2012 levels. Programme reports two months national level stockout. Estimate challenged by: R-

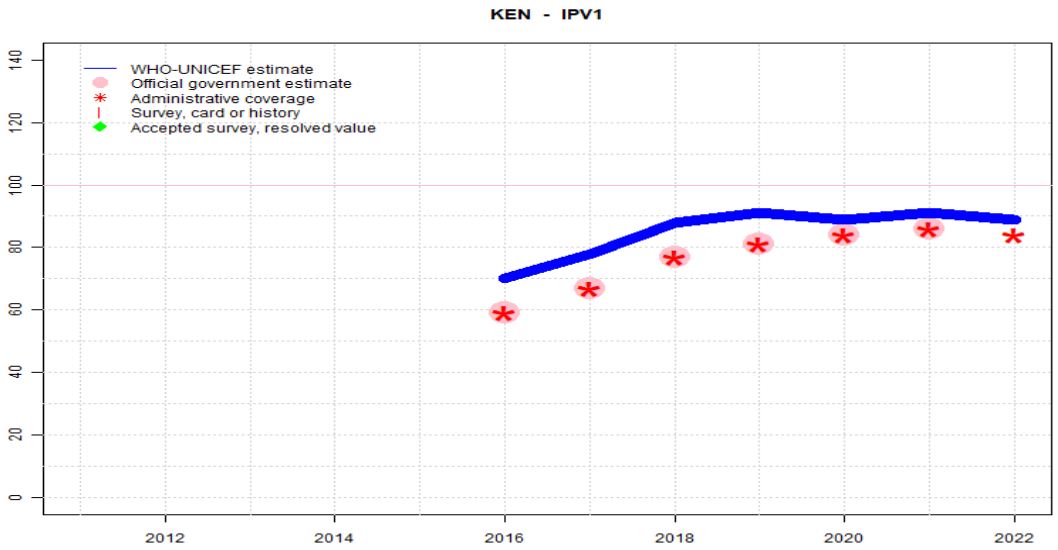
2014: Reported data calibrated to 2012 levels. Estimate challenged by: R-

2013: Reported data calibrated to 2012 levels. Insufficient explanation of methods and data sources used to derive government official estimates. GoC=S+

2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 94 percent based on 1 survey(s). Kenya Demographic and Health Survey, 2014 card or history results of 90 percent modifed for recall bias to 94 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 74 percent and 3rd dose card only coverage of 71 percent. Estimate challenged by: D-R-

2011: Reported data calibrated to 2007 and 2012 levels. Estimate challenged by: D-R-

Kenya - IPV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	70	78	88	91	89	91	89
Estimate GoC	NA	NA	NA	NA	NA	●	●	●	●	●	●	●
Official	NA	NA	NA	NA	NA	59	67	77	81	84	86	NA
Administrative	NA	NA	NA	NA	NA	59	67	77	81	84	86	84
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: Estimated coverage is based on the trend in reported coverage from 2021 to 2022 applied to the prior year estimated coverage. Programme reports less than one month vaccine stockout at national level. IPV1 estimated at 87 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. Estimate challenged by: R-

2021: Estimate is based on estimated DTP3 coverage level. Reported coverage does not appear to indicate any impact from reported stockout. Programme reports fourth month vaccine stockout at national and subnational levels. Estimate challenged by: R-

2020: Estimate is based on estimated DTP3 coverage level. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Programme reports a vaccine stockout at national and subnational levels of less than one month. Estimate challenged by: R-

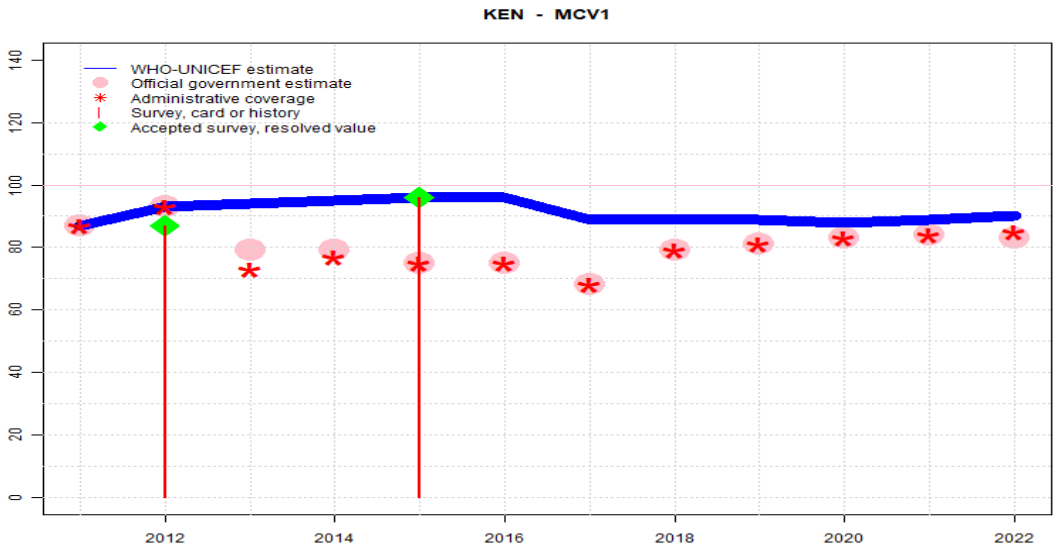
2019: Estimate based on difference in administered doses reported between 2019 and 2020 applied to the 2019 estimate. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Programme reports less than one month vaccine stockout. Estimate challenged by: R-

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

2017: Estimate of 78 percent assigned by working group. Based on the relationship between DTP3 and IPV coverage. Estimate challenged by: R-

2016: Estimate of 70 percent assigned by working group. Estimate based on estimated DTP3 coverage adjusted for the difference in reported administrative coverage for DTP3 and IPV1. Vaccine introduced in December 2015, reporting started in 2016. Estimate challenged by: R-

Kenya - MCV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	87	93	94	95	96	96	89	89	89	88	89	90
Estimate GoC	●●●	●●●	●	●	●	●	●	●	●	●	●	●
Official	87	93	79	79	75	75	68	79	81	83	84	83
Administrative	87	93	73	77	75	75	68	79	81	83	84	85
Survey	NA	87	NA	NA	96	NA	NA	NA	NA	NA	NA	NA

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

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

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

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

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

Description:

2022: Estimated coverage is based on the trend in reported coverage from 2021 to 2022 applied to the prior year estimated coverage. MCV1 estimated at 89 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. WHO and UNICEF await the final survey results. Estimate challenged by: R-

2021: Estimate reflects relative increase from the prior year in the number of reported doses administered applied to the prior year estimated coverage level. Estimate challenged by: R-

2020: Estimate based on difference in administered doses reported between 2019 and 2020 applied to the 2019 estimate. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Programme reports a one month vaccine stockout at national and subnational levels. Estimate challenged by: R-

2019: Estimate based on difference in administered doses reported between 2019 and 2020 applied to the 2019 estimate. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Programme reports five months vaccine stockout. Estimate challenged by: R-

2018: Estimate is based on estimated MCV1 level for 2017 following a review of doses administered. Programme reports 2.5 month vaccine stockout at the national level. Estimate challenged by: R-

2017: Reported data calibrated to 2015 levels. Estimate challenged by: D-R-

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

2015: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 96 percent based on 1 survey(s). Estimate challenged by: D-R-

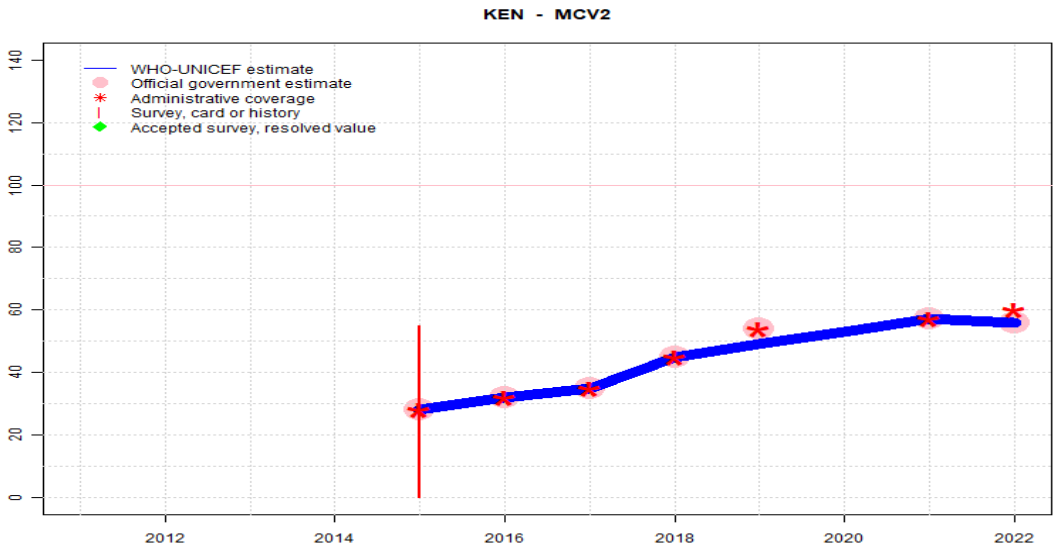
2014: Estimate informed by interpolation between 2012 and 2015 levels. Estimates based on survey results. Estimate challenged by: D-R-

2013: Estimate informed by interpolation between 2012 and 2015 levels. Estimates based on survey results. Decline in of number of children vaccinated with measles is unexplained. Insufficient explanation of methods and data sources used to derive government official estimates. Estimate challenged by: D-R-

2012: Estimate informed by reported data supported by survey. Survey evidence of 87 percent based on 1 survey(s). GoC=R+ S+ D+

2011: Estimate informed by reported data. GoC=R+ S+ D+

Kenya - MCV2



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	28	32	35	45	49	53	57	56
Estimate GoC	NA	NA	NA	NA	●●	●●	●●	●●	●	●	●●	●●
Official	NA	NA	NA	NA	28	32	35	45	54	NA	57	56
Administrative	NA	NA	NA	NA	28	32	35	45	54	NA	57	60
Survey	NA	NA	NA	NA	55	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. MCV2 estimated at 67 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. WHO and UNICEF await the final survey results. GoC=R+ D+

2021: Estimate informed by reported data. GoC=R+ D+

2020: Estimate based on interpolation between estimated coverage for 2019 and 2021. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Programme reports a one month vaccine stockout at national and subnational levels. GoC=No accepted empirical data

2019: Estimate is based on the relative increase in the number of administered doses. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Reported target population for MCV2 is based on the MCV1 target from the prior year. Programme reports five months vaccine stockout. Estimate challenged by: R-

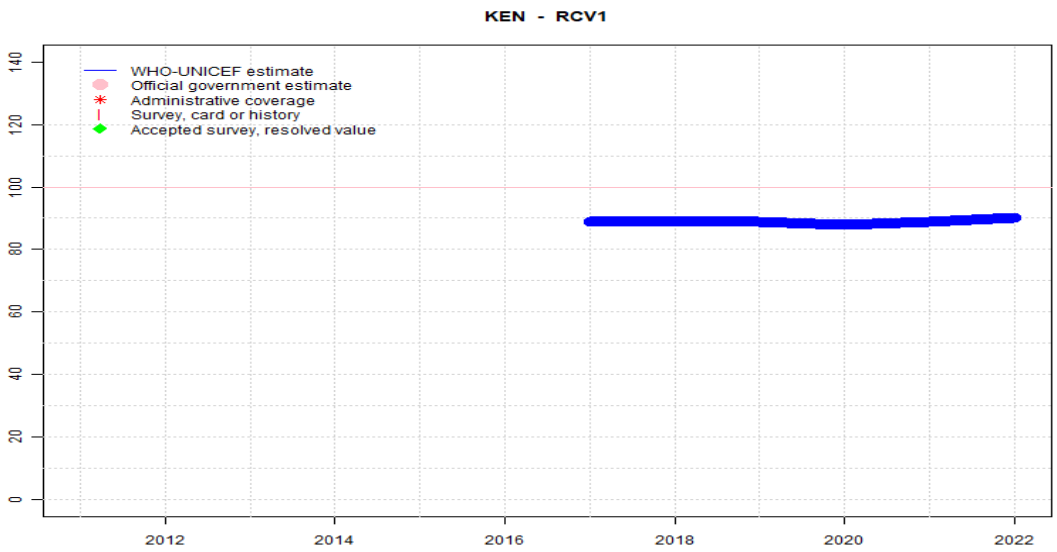
2018: Estimate informed by reported data. GoC=R+ D+

2017: Estimate informed by reported data. GoC=R+ D+

2016: Estimate informed by reported data. GoC=R+ D+

2015: Estimate informed by reported data. Kenya Post Measles-Rubella SIA Coverage Survey Technical Report, June 2016 results ignored by working group. Survey results likely overestimated during introduction year. Second dose of MCV introduced in July 2013 and recommended for administration at 18 months. Reporting began in 2015. Survey evidence for the 2014 birth cohort likely reflects campaign introduction doses. GoC=R+ D+

Kenya - RCV1



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	NA	NA	NA	89	89	89	88	89	90
Estimate GoC	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.

Description:

For this revision, coverage estimates for the first dose of rubella containing vaccine are based on WHO and UNICEF estimates of coverage of measles containing vaccine. Nationally reported coverage of rubella containing vaccine is not taken into consideration nor are they represented in the the accompanying graph and data table.

2022: Estimated coverage is based on the trend in reported coverage from 2021 to 2022 applied to the prior year estimated coverage. MCV1 estimated at 89 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. WHO and UNICEF await the final survey results. Estimate challenged by: R-

2021: Estimate based estimated MCV1. Estimate challenged by: R-

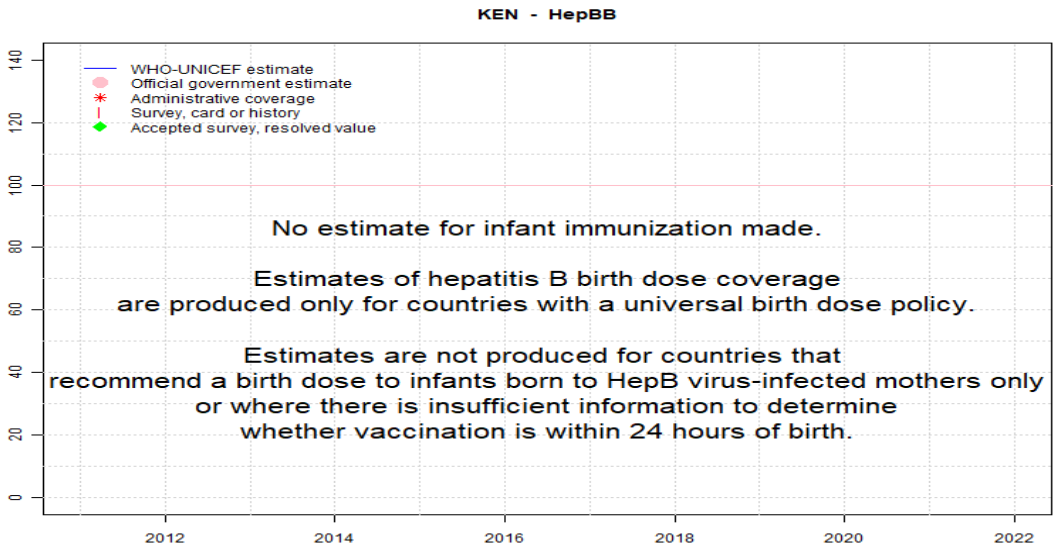
2020: Estimate based estimated MCV1. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Estimate challenged by: R-

2019: Estimate based estimated MCV1. Estimate challenged by: R-

2018: Estimate is based on estimate MCV1 level. Estimate challenged by: R-

2017: Estimate based on estimated MCV1. Measles-Rubella combination vaccine introduced in January 2017. Estimate challenged by: D-R-

Kenya - 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.

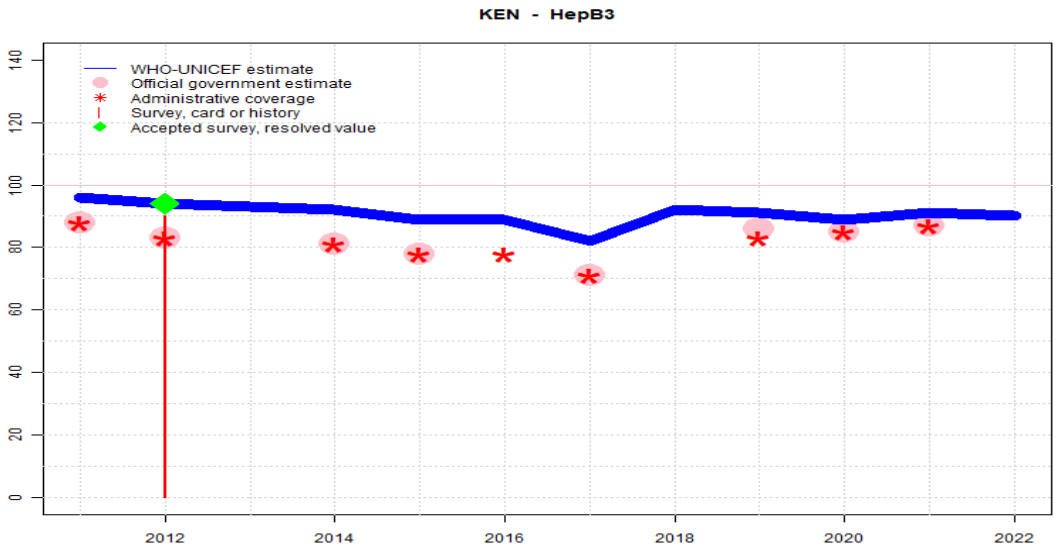
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2022 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk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

Kenya - HepB3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	96	94	93	92	89	89	82	92	91	89	91	90
Estimate GoC	•	•	••	•	•	•	•	•	•	•	•	•
Official	88	83	NA	81	78	NA	71	NA	86	85	87	NA
Administrative	88	83	NA	81	78	78	71	NA	83	85	87	NA
Survey	NA	90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

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

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

Description:

2022: Estimated coverage is based on the trend in DTP3 coverage from 2021 to 2022 applied to the prior year estimated coverage. HepB3 estimated at 89 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. WHO and UNICEF await the final survey results. GoC=No accepted empirical data

2021: Estimate reflects relative increase in the number of reported doses administered from the prior year applied to the prior year estimated coverage level. Estimate challenged by: R-

2020: Estimate informed by difference in administered doses reported between 2019 and 2020 applied to the 2019 estimate. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Programme reports a vaccine stockout at national and subnational levels of less than one month. Estimate of 89 percent changed from previous revision value of 91 percent. Estimate challenged by: R-

2019: Estimate based on difference in administered doses reported between 2018 and 2019 applied to the 2018 estimate. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Estimate challenged by: R-

2018: Estimate based on estimated DTP3 coverage. Increase in reported coverage from 2017 to 2018 is exceptionally large at such high levels of coverage. Estimated coverage for 2018 may represent an overestimation. GoC=No accepted empirical data

2017: Reported data calibrated to 2012 levels. Estimate challenged by: R-

2016: Reported data calibrated to 2012 levels. Estimate challenged by: D-R-

2015: Reported data calibrated to 2012 levels. Estimate challenged by: R-

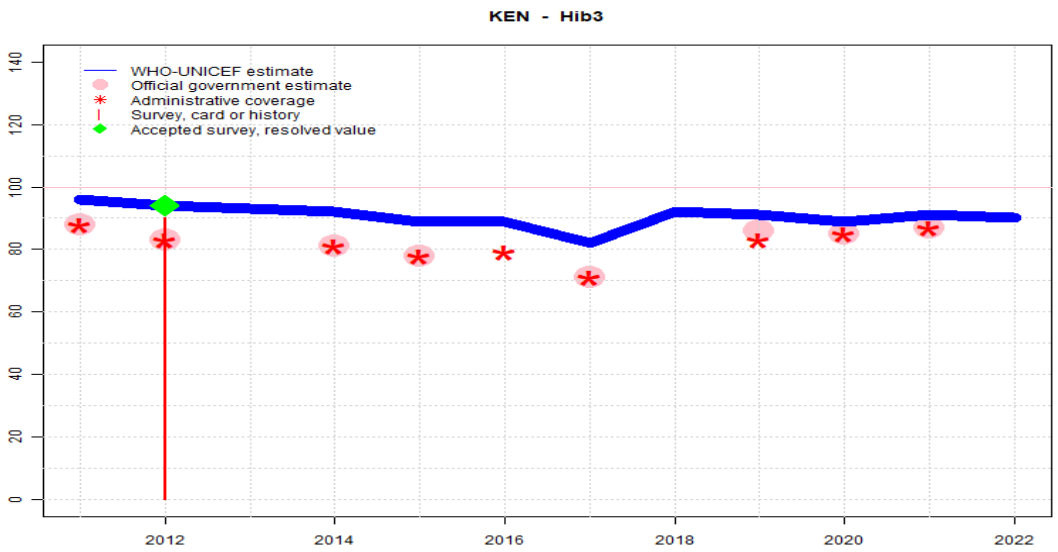
2014: Reported data calibrated to 2012 levels. Estimate challenged by: R-

2013: Reported data calibrated to 2012 levels. Insufficient explanation of methods and data sources used to derive government official estimates. GoC=S+

2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 94 percent based on 1 survey(s). Kenya Demographic and Health Survey, 2014 card or history results of 90 percent modifed for recall bias to 94 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 74 percent and 3rd dose card only coverage of 71 percent. One-month vaccine shortage reported. Estimate challenged by: D-R-

2011: Reported data calibrated to 2007 and 2012 levels. Estimate challenged by: D-R-

Kenya - Hib3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	96	94	93	92	89	89	82	92	91	89	91	90
Estimate GoC	•	•	••	•	•	•	•	•	•	•	•	•
Official	88	83	NA	81	78	NA	71	NA	86	85	87	NA
Administrative	88	83	NA	81	78	79	71	NA	83	85	87	NA
Survey	NA	90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

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

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

Description:

2022: Estimated coverage is based on the trend in DTP3 coverage from 2021 to 2022 applied to the prior year estimated coverage. Hib3 estimated at 89 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. WHO and UNICEF await the final survey results. GoC=No accepted empirical data

2021: Estimate reflects relative increase in the number of reported doses administered from the prior year applied to the prior year estimated coverage level. Estimate challenged by: R-

2020: Estimate based on difference in administered doses reported between 2019 and 2020 applied to the 2019 estimate. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Programme reports a vaccine stockout at national and subnational levels of less than one month. Estimate challenged by: R-

2019: Estimate based on difference in administered doses reported between 2018 and 2019 applied to the 2018 estimate. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Estimate challenged by: R-

2018: Estimate based on estimated DTP3 coverage. Increase in reported coverage from 2017 to 2018 is exceptionally large at such high levels of coverage. Estimated coverage for 2018 may represent an overestimation. GoC=No accepted empirical data

2017: Reported data calibrated to 2012 levels. Estimate challenged by: R-

2016: Estimate informed by estimated DTP3 coverage. Estimate of 89 percent changed from previous revision value of 90 percent. Estimate challenged by: D-R-

2015: Reported data calibrated to 2012 levels. Estimate challenged by: R-

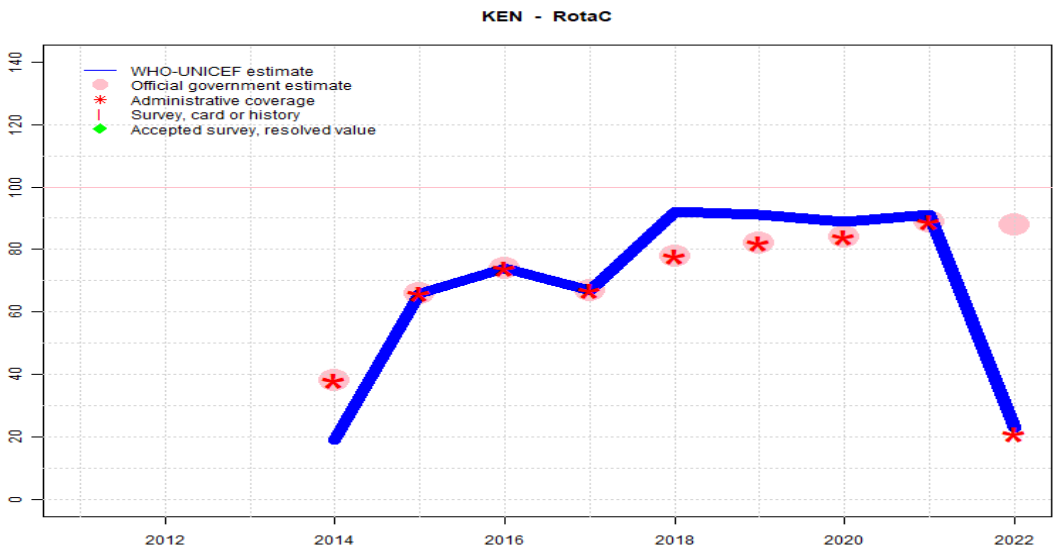
2014: Reported data calibrated to 2012 levels. Estimate challenged by: R-

2013: Reported data calibrated to 2012 levels. Insufficient explanation of methods and data sources used to derive government official estimates. GoC=S+

2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 94 percent based on 1 survey(s). Kenya Demographic and Health Survey, 2014 card or history results of 90 percent modifed for recall bias to 94 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 74 percent and 3rd dose card only coverage of 71 percent. One-month vaccine shortage reported. Estimate challenged by: D-R-

2011: Reported data calibrated to 2007 and 2012 levels. Estimate challenged by: D-R-

Kenya - RotaC



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	NA	NA	NA	19	66	74	67	92	91	89	91	23
Estimate GoC	NA	NA	NA	•	••	••	••	•	•	•	•	•
Official	NA	NA	NA	38	66	74	67	78	82	84	89	88
Administrative	NA	NA	NA	38	66	74	67	78	82	84	89	21
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

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

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

Description:

2022: Estimated coverage is based on the trend in reported coverage from 2021 to 2022 applied to the prior year estimated coverage. RotaC estimated at 92 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. WHO and UNICEF await the final survey results. Programme reports 9.8 month vaccine stockout at national and subnational levels. Unexplained adjustment of official coverage from administrative coverage. Estimate challenged by: R-

2021: Estimate is based on estimated DTP3 coverage level. Programme reports five month vaccine stockout at national and subnational levels. Estimate challenged by: R-

2020: Estimate is based on estimated DTP3 coverage level. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Estimate challenged by: R-

2019: Estimate is based on estimated DTP3 coverage level. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Programme reports one half month vaccine stockout. Estimate challenged by: R-

2018: Estimate is based on estimated DTP3 level. Estimate challenged by: R-

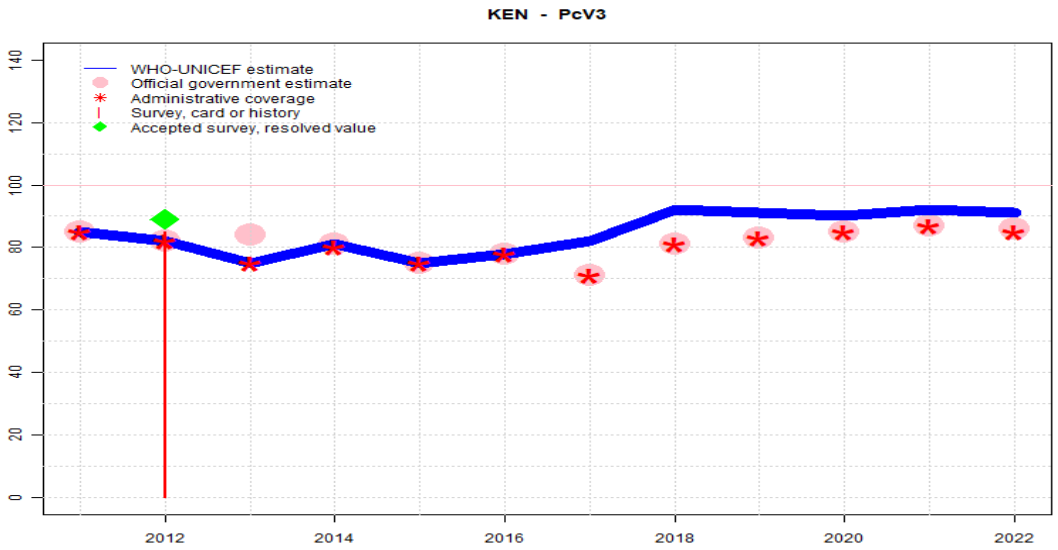
2017: Estimate informed by reported data. GoC=R+ D+

2016: Estimate informed by reported data. GoC=R+ D+

2015: Estimate informed by reported data. GoC=R+ D+

2014: Rotavirus vaccine introduced during 2014. Programme achieved 38 percent coverage in 50 percent of the national target population. Estimate is based on annualized coverage for the national birth cohort. Programme reports local level stockouts due to vaccination of children out of target age range. Estimate challenged by: R-

Kenya - PcV3



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	85	82	75	81	75	78	82	92	91	90	92	91
Estimate GoC	●●	●●●	●	●●●	●●	●●	●	●	●	●	●	●
Official	85	82	84	81	75	78	71	81	83	85	87	86
Administrative	85	82	75	80	75	78	71	81	83	85	87	85
Survey	NA	85	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

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

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

Description:

2022: Estimated coverage is based on the trend in reported coverage from 2021 to 2022 applied to the prior year estimated coverage. PcV3 estimated at 91 percent in the 2022 DHS Key indicator Report for a prior year birth cohort. WHO and UNICEF await the final survey results. Estimate challenged by: R-

2021: Estimate reflects relative increase in the number of reported doses administered from the prior year applied to the prior year estimated coverage level. Estimate challenged by: R-

2020: Estimate based on difference in administered doses reported between 2019 and 2020 applied to the 2019 estimate. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Estimate challenged by: R-

2019: Estimate based on difference in administered doses reported between 2019 and 2020 applied to the 2019 estimate. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Estimate challenged by: R-

2018: Estimate is based on estimated DTP3 level. Increase in reported coverage from 2017 to 2018 seems exceptional. Estimated coverage for 2018 may represent an overestimation. Estimate challenged by: R-

2017: Estimate is based on estimated DTP3 level. Estimate challenged by: R-

2016: Estimate informed by reported data. GoC=R+ D+

2015: Estimate informed by reported data. GoC=R+ D+

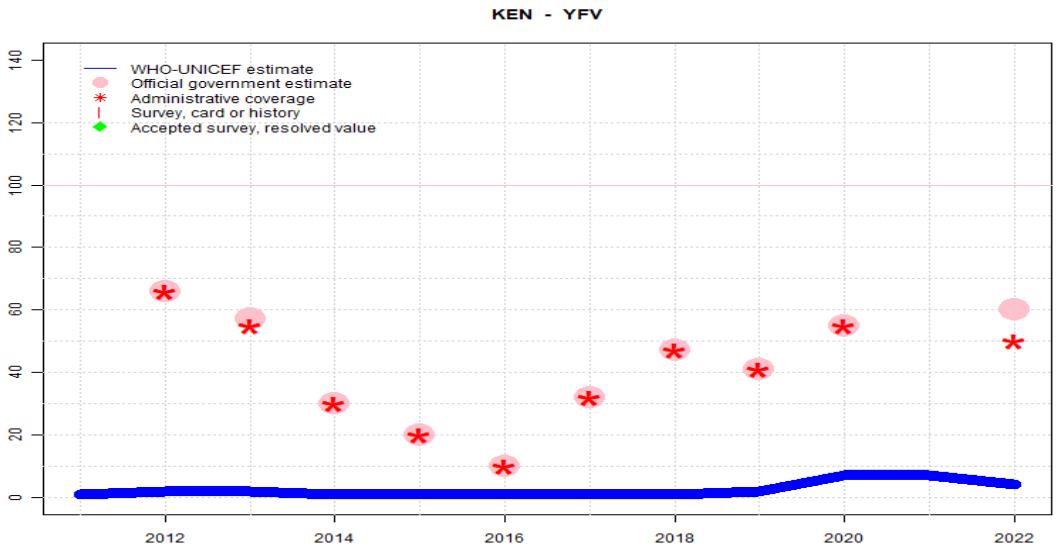
2014: Estimate informed by reported data. GoC=R+ S+ D+

2013: Estimate informed by reported administrative data. Insufficient explanation of methods and data sources used to derive government official estimates. Estimate challenged by: S-

2012: Estimate informed by reported data supported by survey. Survey evidence of 89 percent based on 1 survey(s). Kenya Demographic and Health Survey, 2014 card or history results of 85 percent modifed for recall bias to 89 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 71 percent and 3rd dose card only coverage of 67 percent. One-month vaccine shortage reported. GoC=R+ S+ D+

2011: Estimate informed by reported data. Pneumococcal conjugate vaccine introduced in 2011. GoC=R+ S+

Kenya - YFV



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Estimate	1	2	2	1	1	1	1	1	2	7	7	4
Estimate GoC	••	•	•	•	•	•	•	•	•	•	•	•
Official	NA	66	57	30	20	10	32	47	41	55	NA	60
Administrative	NA	66	55	30	20	10	32	47	41	55	NA	50
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

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

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

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

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

Description:

2022: Programme reports less than one month vaccine stockout at national level. Programme reports 50 percent coverage achieved in 8 percent of the national target population. Estimated coverage is based on that achieved in annual national cohort. Estimate challenged by: R-

2021: Estimate based on prior year estimate in the absence of reported data. GoC=No accepted empirical data

2020: Programme reports 55 percent coverage achieved in seven percent of the national target population. Estimate is based on annualized coverage in the total national target population. Reported denominator for 2020 is from projections of the 2019 census. Declining reported denominator for the last three years. WHO and UNICEF recommend a revision of historical denominators. Estimate challenged by: R-

2019: Programme reports 41 percent coverage achieved in six percent of the national target population. Estimate is based on annualized coverage in the total national target population. Reported data excluded. Country notes that new census results suggest a smaller target population size than that based on projections from the prior census. Estimate challenged by: R-

2018: Programme reports 47 percent coverage achieved in three percent of the national target population. Estimate is based on annualized coverage in the total national target population. Programme reports a three months vaccine stockout at national level. Estimate challenged by: R-

2017: Programme achieved 32 percent coverage in three percent of the national target population. Estimate is based on total national target population. Programme reports six month vaccine stockout. Estimate challenged by: R-

2016: Programme achieved 10 percent coverage in three percent of the national target population. Estimate is based on total national target population. Programme reports seven month national level stockout. Estimate challenged by: R-

2015: Programme achieved 20 percent coverage in three percent of the national target population. Estimate is based on total national target population. Programme reports three months national level stockout. Estimate challenged by: R-

2014: Programme achieved 30 percent coverage in three percent of the national target population. Estimate is based on total national target population. Estimate challenged by: R-

2013: Fifty-four percent coverage achieved in three percent of the target population. Insufficient explanation of methods and data sources used to derive government official estimates. Estimate challenged by: R-

2012: Sixty six percent coverage achieved in three percent of the target population. Estimate challenged by: R-

2011: Routine infant immunization recommended in four high risk areas which comprises approximately three percent of the national birth cohort. GoC=D+

Kenya - 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.

2015 Kenya Post Measles-Rubella SIA Coverage Survey Technical Report, June 2016

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	Card	25	12-23 m	1196	-
MCV1	Card or History	96	12-23 m	1196	-
MCV1	History	71	12-23 m	1196	-
MCV2	Card	7	24-35 m	1373	-
MCV2	Card or History	55	24-35 m	1373	-
MCV2	History	47	24-35 m	1373	-

2012 Kenya Demographic and Health Survey, 2014

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	95.9	12-23 m	3777	75
BCG	Card	73.2	12-23 m	2820	75
BCG	Card or History	96.7	12-23 m	3777	75
BCG	History	23.5	12-23 m	957	75
DTP1	C or H <12 months	97	12-23 m	3777	75
DTP1	Card	74.2	12-23 m	2820	75
DTP1	Card or History	97.5	12-23 m	3777	75
DTP1	History	23.3	12-23 m	957	75
DTP3	C or H <12 months	88.3	12-23 m	3777	75
DTP3	Card	70.9	12-23 m	2820	75
DTP3	Card or History	89.9	12-23 m	3777	75
DTP3	History	18.9	12-23 m	957	75
HepB1	C or H <12 months	97	12-23 m	3777	75
HepB1	Card	74.2	12-23 m	2820	75
HepB1	Card or History	97.5	12-23 m	3777	75
HepB1	History	23.3	12-23 m	957	75
HepB3	C or H <12 months	88.3	12-23 m	3777	75
HepB3	Card	70.9	12-23 m	2820	75
HepB3	Card or History	89.9	12-23 m	3777	75
HepB3	History	18.9	12-23 m	957	75
Hib1	C or H <12 months	97	12-23 m	3777	75
Hib1	Card	74.2	12-23 m	2820	75
Hib1	Card or History	97.5	12-23 m	3777	75
Hib1	History	23.3	12-23 m	957	75
Hib3	C or H <12 months	88.3	12-23 m	3777	75
Hib3	Card	70.9	12-23 m	2820	75
Hib3	Card or History	89.9	12-23 m	3777	75
Hib3	History	18.9	12-23 m	957	75
MCV1	C or H <12 months	78.9	12-23 m	3777	75
MCV1	Card	65.4	12-23 m	2820	75
MCV1	Card or History	87.1	12-23 m	3777	75
MCV1	History	21.7	12-23 m	957	75
PcV1	C or H <12 months	93	12-23 m	3777	75
PcV1	Card	71.2	12-23 m	2820	75
PcV1	Card or History	93.7	12-23 m	3777	75
PcV1	History	22.5	12-23 m	957	75
PcV3	C or H <12 months	83.2	12-23 m	3777	75
PcV3	Card	67.1	12-23 m	2820	75
PcV3	Card or History	85.1	12-23 m	3777	75
PcV3	History	18	12-23 m	957	75
Pol1	C or H <12 months	97.5	12-23 m	3777	75
Pol1	Card	74.5	12-23 m	2820	75
Pol1	Card or History	98	12-23 m	3777	75
Pol1	History	23.6	12-23 m	957	75
Pol3	C or H <12 months	88.1	12-23 m	3777	75
Pol3	Card	71.3	12-23 m	2820	75
Pol3	Card or History	90	12-23 m	3777	75
Pol3	History	18.8	12-23 m	957	75

2011 National Immunization Coverage Survey, 2012-Summary of Findings

Kenya - survey details

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Scar	94	12-23 m	3986	74

2007 Kenya Demographic and Health Survey 2008-09

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	95.4	12-23 m	1096	70
BCG	Card	69.9	12-23 m	1096	70
BCG	Card or History	95.6	12-23 m	1096	70
BCG	History	25.8	12-23 m	1096	70
DTP1	C or H <12 months	93.8	12-23 m	1096	70
DTP1	Card	69.9	12-23 m	1096	70
DTP1	Card or History	95.8	12-23 m	1096	70
DTP1	History	25.9	12-23 m	1096	70
DTP3	C or H <12 months	84.1	12-23 m	1096	70
DTP3	Card	66.4	12-23 m	1096	70
DTP3	Card or History	86.4	12-23 m	1096	70
DTP3	History	20	12-23 m	1096	70
HepB1	C or H <12 months	93.8	12-23 m	1096	70
HepB1	Card	69.9	12-23 m	1096	70
HepB1	Card or History	95.8	12-23 m	1096	70
HepB1	History	25.9	12-23 m	1096	70
HepB3	C or H <12 months	84.1	12-23 m	1096	70
HepB3	Card	66.4	12-23 m	1096	70
HepB3	Card or History	86.4	12-23 m	1096	70
HepB3	History	20	12-23 m	1096	70
Hib1	C or H <12 months	93.8	12-23 m	1096	70
Hib1	Card	69.9	12-23 m	1096	70
Hib1	Card or History	95.8	12-23 m	1096	70
Hib1	History	25.9	12-23 m	1096	70
Hib3	C or H <12 months	84.1	12-23 m	1096	70
Hib3	Card	66.4	12-23 m	1096	70
Hib3	Card or History	86.4	12-23 m	1096	70
Hib3	History	20	12-23 m	1096	70
MCV1	C or H <12 months	73.5	12-23 m	1096	70
MCV1	Card	60.8	12-23 m	1096	70
MCV1	Card or History	85	12-23 m	1096	70
MCV1	History	24.2	12-23 m	1096	70
Pol1	C or H <12 months	94.3	12-23 m	1096	70
Pol1	Card	70.1	12-23 m	1096	70
Pol1	Card or History	96.4	12-23 m	1096	70
Pol1	History	26.2	12-23 m	1096	70
Pol3	C or H <12 months	84.1	12-23 m	1096	70
Pol3	Card	66.7	12-23 m	1096	70
Pol3	Card or History	87.5	12-23 m	1096	70
Pol3	History	20.8	12-23 m	1096	70
YFV	C or H <12 months	2.4	12-23 m	1096	70
YFV	Card	3.4	12-23 m	1096	70
YFV	Card or History	3.4	12-23 m	1096	70
YFV	History	0	12-23 m	1096	70

2002 National Demographic and Health Survey 2003

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	87	12-23 m	1131	60
BCG	Card	57	12-23 m	1131	60
BCG	Card or history	87.3	12-23 m	1131	60
BCG	History	30.3	12-23 m	1131	60
DTP1	C or H <12 months	88.2	12-23 m	1131	60
DTP1	Card	59.3	12-23 m	1131	60
DTP1	Card or history	89.2	12-23 m	1131	60
DTP1	History	29.9	12-23 m	1131	60
DTP3	C or H <12 months	70.5	12-23 m	1131	60
DTP3	Card	52.6	12-23 m	1131	60
DTP3	Card or history	72.2	12-23 m	1131	60
DTP3	History	19.6	12-23 m	1131	60
Hib3	C or H <12 months	70.5	12-23 m	1131	60
Hib3	Card	52.6	12-23 m	1131	60
Hib3	Card or history	72.2	12-23 m	1131	60
Hib3	History	19.6	12-23 m	1131	60
MCV1	C or H <12 months	62.8	12-23 m	1131	60
MCV1	Card	46.4	12-23 m	1131	60
MCV1	Card or history	72.5	12-23 m	1131	60
MCV1	History	26.1	12-23 m	1131	60
Pol1	C or H <12 months	89.6	12-23 m	1131	60
Pol1	Card	59.3	12-23 m	1131	60
Pol1	Card or history	91	12-23 m	1131	60

Kenya - survey details

Pol1	History	31.7	12-23 m	1131	60
Pol3	C or H <12 months	70.3	12-23 m	1131	60
Pol3	Card	52.2	12-23 m	1131	60
Pol3	Card or history	72.5	12-23 m	1131	60
Pol3	History	20.3	12-23 m	1131	60

1999 Kenya Multiple Indicator Cluster Survey 2000, 2001

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	90.5	12-23 m	1544	-
BCG	Card	63.2	12-23 m	1544	-
BCG	Card or History	90.9	12-23 m	1544	-
BCG	History	27.7	12-23 m	1544	-
DTP1	C or H <12 months	88.9	12-23 m	1544	-
DTP1	Card	63.3	12-23 m	1544	-
DTP1	Card or History	89.4	12-23 m	1544	-
DTP1	History	26.1	12-23 m	1544	-
DTP3	C or H <12 months	75.1	12-23 m	1544	-
DTP3	Card	58.4	12-23 m	1544	-
DTP3	Card or History	76.2	12-23 m	1544	-
DTP3	History	17.8	12-23 m	1544	-
MCV1	C or H <12 months	71.6	12-23 m	1544	-
MCV1	Card	51.2	12-23 m	1544	-
MCV1	Card or History	76.1	12-23 m	1544	-
MCV1	History	24.9	12-23 m	1544	-
Pol1	C or H <12 months	85.7	12-23 m	1544	-
Pol1	Card	62.5	12-23 m	1544	-
Pol1	Card or History	86.6	12-23 m	1544	-
Pol1	History	24.1	12-23 m	1544	-
Pol3	C or H <12 months	71.7	12-23 m	1544	-
Pol3	Card	57.7	12-23 m	1544	-
Pol3	Card or History	72.8	12-23 m	1544	-
Pol3	History	15.1	12-23 m	1544	-

1997 Kenya Demographic and Health Survey 1998,1999

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	54.7	12-23 m	1097	55
BCG	Card <12 months	94	12-23 m	1097	55
BCG	Card or History	95.9	12-23 m	1097	55
BCG	History	41.2	12-23 m	1097	55
DTP1	Card	54.8	12-23 m	1097	55
DTP1	Card <12 months	94.5	12-23 m	1097	55
DTP1	Card or History	95.8	12-23 m	1097	55
DTP1	History	41	12-23 m	1097	55
DTP3	Card	50.9	12-23 m	1097	55
DTP3	Card <12 months	76.3	12-23 m	1097	55
DTP3	Card or History	79.2	12-23 m	1097	55
DTP3	History	28.2	12-23 m	1097	55
MCV1	Card	46	12-23 m	1097	55
MCV1	Card <12 months	70.7	12-23 m	1097	55
MCV1	Card or History	79.2	12-23 m	1097	55
MCV1	History	33.3	12-23 m	1097	55
Pol1	Card	54.9	12-23 m	1097	55
Pol1	Card <12 months	94.2	12-23 m	1097	55
Pol1	Card or History	95.4	12-23 m	1097	55
Pol1	History	40.5	12-23 m	1097	55
Pol3	Card	51	12-23 m	1097	55
Pol3	Card <12 months	77.7	12-23 m	1097	55
Pol3	Card or History	80.8	12-23 m	1097	55
Pol3	History	29.7	12-23 m	1097	55

Kenya - 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