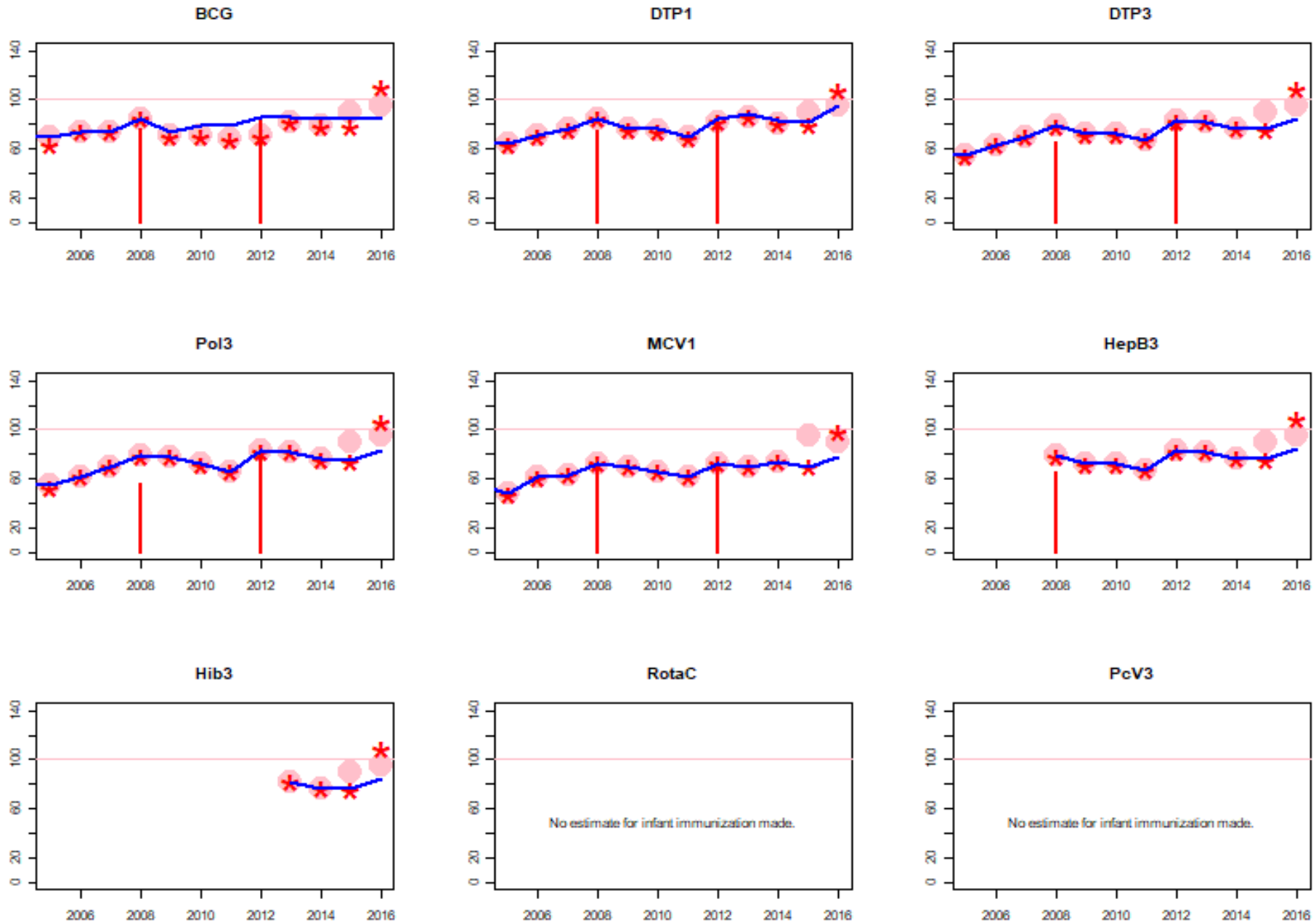


Timor-Leste: WHO and UNICEF estimates of immunization coverage: 2016 revision



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. Coverage estimates are based on WHO and UNICEF estimates of coverage for the dose of measles containing vaccine that corresponds to the first measles-rubella combination vaccine. Nationally reported coverage of RCV is not taken into consideration nor are the data represented in the accompanying graph and data table.

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

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

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

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

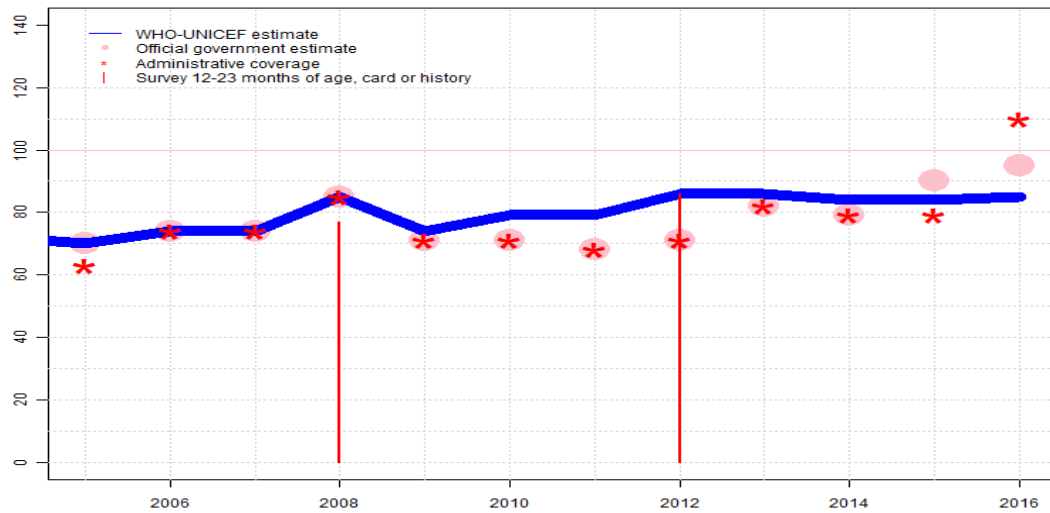
PcV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

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Timor-Leste - BCG

TLS - BCG



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	70	74	74	85	74	79	79	86	86	84	84	85
Estimate GoC	●●●	●●●	●●●	●●●	●	●	●	●	●	●	●	●
Official	70	74	74	85	71	71	68	71	82	79	90	95
Administrative	63	74	74	85	71	71	68	71	82	79	79	110
Survey	NA	NA	NA	77	NA	NA	NA	86	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: 2015 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.

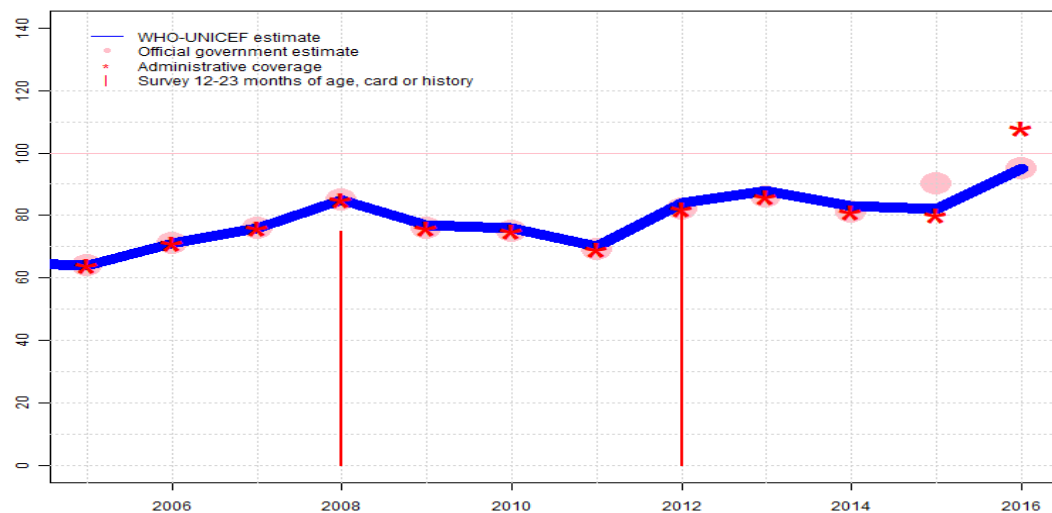
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: Estimate of 85 percent assigned by working group. Estimate is based on recomputed coverage reported by the country using target population data from the 2009 census. Reported data excluded. The reported target population estimates for 2016 are lower than those for 2015 due in part to a change from use of projections from the 2009 census to projections from the 2015 census. Reported data excluded due to unexplained sudden change in coverage from 79 level to 95 percent. WHO and UNICEF are aware of two sub-national surveys conducted during 2015 reflecting coverage for the 2013-14 birth cohorts and encourages efforts to appropriately re-weight the survey results to produce national level coverage results. The estimate is likely an underestimate of coverage based on reported increases in the number of children vaccinated in 2016 compared to 2015. The reported number of children vaccinated includes children beyond one-year of age but the proportion above one-year is unknown. WHO and UNICEF await the final results of the 2016 DHS to help inform the current gaps in the proportion of children receiving vaccination beyond one-year. Estimate challenged by: R-
- 2015: Reported data calibrated to 2013 and 2016 levels. Official government reported data based on two subnational surveys conducted during 2015. Estimate of 84 percent changed from previous revision value of 79 percent. Estimate challenged by: R-
- 2014: Reported data calibrated to 2013 and 2016 levels. Estimate of 84 percent changed from previous revision value of 79 percent. Estimate challenged by: D-R-
- 2013: Estimate of 86 percent assigned by working group. Estimate is based on survey result for 2012. Programme reports three month stockout at national level and in two districts. Estimates based on reported data. Estimate of 86 percent changed from previous revision value of 82 percent. Estimate challenged by: D-R-
- 2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 86 percent based on 1 survey(s). Estimate of 86 percent changed from previous revision value of 71 percent. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2008 and 2012 levels. Estimate of 79 percent changed from previous revision value of 68 percent. Estimate challenged by: D-R-
- 2010: Reported data calibrated to 2008 and 2012 levels. Estimate of 79 percent changed from previous revision value of 71 percent. Estimate challenged by: R-
- 2009: Reported data calibrated to 2008 and 2012 levels. Trends in coverage from 2007 to 2009 consistent with trends in other antigens. Estimate of 74 percent changed from previous revision value of 71 percent. Estimate challenged by: R-
- 2008: Estimate based on coverage reported by national government supported by survey. Survey evidence of 77 percent based on 1 survey(s). Trends in coverage from 2007 to 2009 consistent with trends in other antigens. GoC=R+ S+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2005: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Timor-Leste - DTP1

TLS - DTP1



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	64	71	76	85	77	76	70	84	88	83	82	95
Estimate GoC	●●●	●●●	●●●	●●●	●	●	●	●	●	●	●	●
Official	64	71	76	85	76	75	69	82	86	81	90	95
Administrative	64	71	76	85	76	75	69	82	86	81	80	108
Survey	NA	NA	NA	75	NA	NA	NA	84	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: 2015 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.

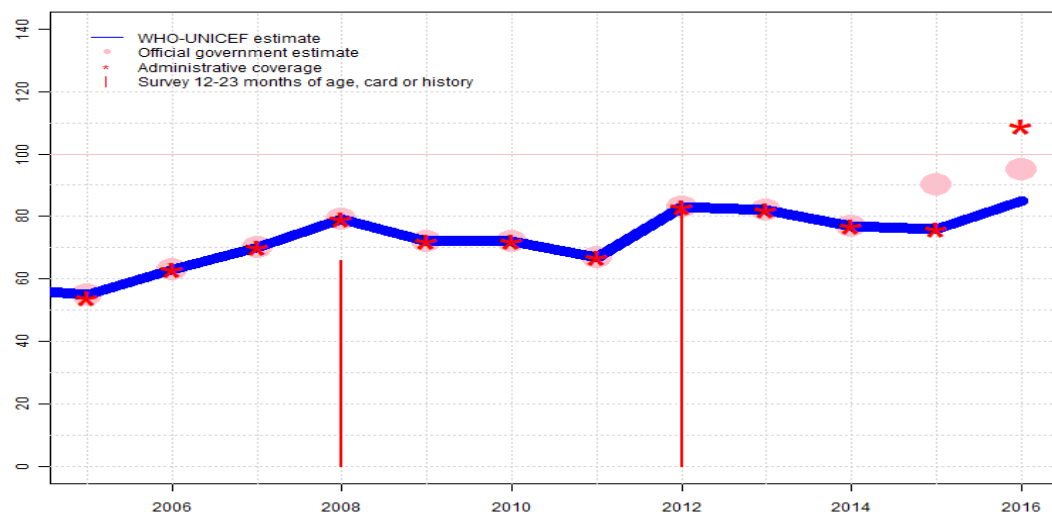
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2016: DTP1 coverage estimated based on DTP3 coverage of 85. Reported data excluded. The reported target population estimates for 2016 are lower than those for 2015 due in part to a change from use of projections from the 2009 census to projections from the 2015 census. Reported data excluded due to unexplained sudden change in coverage from 80 level to 95 percent. WHO and UNICEF are aware of two sub-national surveys conducted during 2015 reflecting coverage for the 2013-14 birth cohorts and encourages efforts to appropriately re-weight the survey results to produce national level coverage results. The estimate is likely an underestimate of coverage based on reported increases in the number of children vaccinated in 2016 compared to 2015. The reported number of children vaccinated includes children beyond one-year of age but the proportion above one-year is unknown. WHO and UNICEF await the final results of the 2016 DHS to help inform the current gaps in the proportion of children receiving vaccination beyond one-year. Estimate challenged by: R-
- 2015: Reported data calibrated to 2012 levels. Official government reported data based on two subnational surveys conducted during 2015. Estimate of 82 percent changed from previous revision value of 80 percent. Estimate challenged by: R-
- 2014: Reported data calibrated to 2012 levels. Estimate of 83 percent changed from previous revision value of 81 percent. Estimate challenged by: R-
- 2013: Reported data calibrated to 2012 levels. Estimate of 88 percent changed from previous revision value of 86 percent. Estimate challenged by: R-
- 2012: Estimate of 84 percent assigned by working group. Estimate is based on the survey coverage which supports the reported coverage level. Estimate of 84 percent changed from previous revision value of 94 percent. Estimate challenged by: R-
- 2011: Reported data calibrated to 2008 and 2012 levels. Estimate of 70 percent changed from previous revision value of 69 percent. Estimate challenged by: R-S-
- 2010: Reported data calibrated to 2008 and 2012 levels. Estimate of 76 percent changed from previous revision value of 75 percent. Estimate challenged by: R-
- 2009: Reported data calibrated to 2008 and 2012 levels. Estimate of 77 percent changed from previous revision value of 76 percent. Estimate challenged by: R-
- 2008: Estimate based on coverage reported by national government supported by survey. Survey evidence of 75 percent based on 1 survey(s). GoC=R+ S+ D+
- 2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+
- 2005: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Timor-Leste - DTP3

TLS - DTP3



Description:

2016: Estimate is based on recomputed coverage reported by the country using target population data from the 2009 census. Reported data excluded. The reported target population estimates for 2016 are lower than those for 2015 due in part to a change from use of projections from the 2009 census to projections from the 2015 census. Reported data excluded due to unexplained sudden change in coverage from 76 level to 95 percent. WHO and UNICEF are aware of two sub-national surveys conducted during 2015 reflecting coverage for the 2013-14 birth cohorts and encourages efforts to appropriately re-weight the survey results to produce national level coverage results. The estimate is likely an underestimate of coverage based on reported increases in the number of children vaccinated in 2016 compared to 2015. The reported number of children vaccinated includes children beyond one-year of age but the proportion above one-year is unknown. WHO and UNICEF await the final results of the 2016 DHS to help inform the current gaps in the proportion of children receiving vaccination beyond one-year. Estimate challenged by: R-

2015: Estimate based on reported administrative data. Official government reported data based on two subnational surveys conducted during 2015. GoC=R+ D+

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

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

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 83 percent based on 1 survey(s). GoC=R+ S+ D+

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

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

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

2008: Estimate based on coverage reported by national government supported by survey. Survey evidence of 72 percent based on 1 survey(s). Timor-Leste Demographic and Health Survey 2009-10 card or history results of 66 percent modified for recall bias to 72 percent based on 1st dose card or history coverage of 75 percent, 1st dose card only coverage of 49 percent and 3d dose card only coverage of 47 percent. GoC=R+ S+ D+

2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+

2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+

2005: Estimate based on coverage reported by national government. GoC=R+ S+ D+

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	55	63	70	79	72	72	67	83	82	77	76	85
Estimate GoC	●●●	●●●	●●●	●●●	●●●	●	●	●●●	●●●	●●●	●●	●
Official	55	63	70	79	72	72	67	83	82	77	90	95
Administrative	54	63	70	79	72	72	67	83	82	77	76	109
Survey	NA	NA	NA	66	NA	NA	NA	83	NA	NA	NA	NA

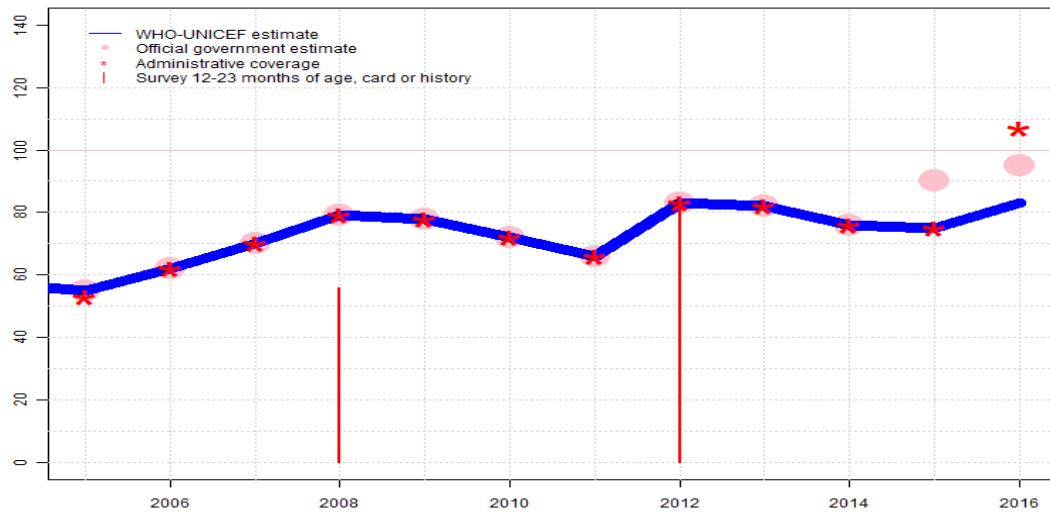
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2015 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.

Timor-Leste - Pol3

TLS - Pol3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	55	62	70	79	78	72	66	83	82	76	75	83
Estimate GoC	●●●	●●●	●●●	●●●	●●●	●●●	●	●●●	●●●	●●●	●●	●
Official	55	62	70	79	78	72	66	83	82	76	90	95
Administrative	53	62	70	79	78	72	66	83	82	76	75	107
Survey	NA	NA	NA	56	NA	NA	NA	82	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: 2015 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:

2016: Estimate is based on recomputed coverage reported by the country using target population data from the 2009 census. Reported data excluded. The reported target population estimates for 2016 are lower than those for 2015 due in part to a change from use of projections from the 2009 census to projections from the 2015 census. Reported data excluded due to unexplained sudden change in coverage from 75 level to 95 percent. WHO and UNICEF are aware of two sub-national surveys conducted during 2015 reflecting coverage for the 2013-14 birth cohorts and encourages efforts to appropriately re-weight the survey results to produce national level coverage results. The estimate is likely an underestimate of coverage based on reported increases in the number of children vaccinated in 2016 compared to 2015. The reported number of children vaccinated includes children beyond one-year of age but the proportion above one-year is unknown. WHO and UNICEF await the final results of the 2016 DHS to help inform the current gaps in the proportion of children receiving vaccination beyond one-year. Estimate challenged by: R-

2015: Estimate based on reported administrative data. Official government reported data based on two subnational surveys conducted during 2015. GoC=R+ D+

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

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

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 82 percent based on 1 survey(s). GoC=R+ S+ D+

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

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

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

2008: Estimate based on coverage reported by national government supported by survey. Survey evidence of 72 percent based on 1 survey(s). Timor-Leste Demographic and Health Survey 2009-10 card or history results of 56 percent modified for recall bias to 72 percent based on 1st dose card or history coverage of 75 percent, 1st dose card only coverage of 49 percent and 3d dose card only coverage of 47 percent. GoC=R+ S+ D+

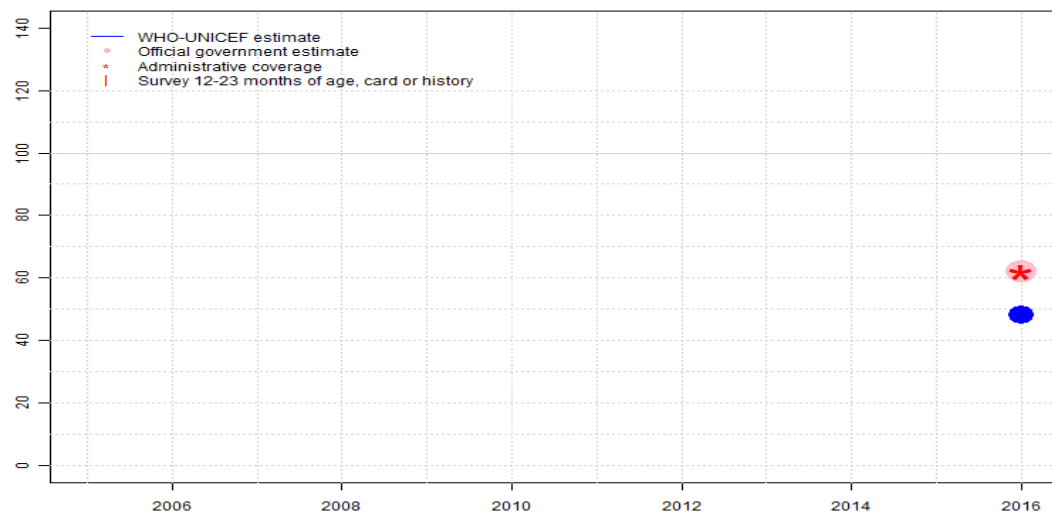
2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+

2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+

2005: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Timor-Leste - IPV1

TLS - IPV1



Description:

2016: Estimate is based on recomputed coverage reported by the country using target population data from the 2009 census. Inactivated polio vaccine introduced during 2016. Reporting began in 2016. Estimate challenged by: R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	48
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	62
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	62
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

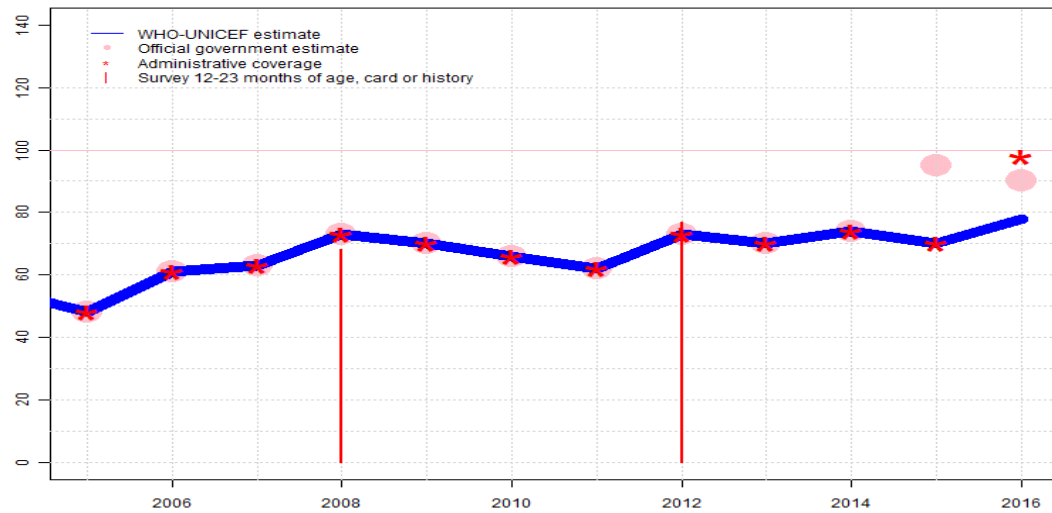
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2015 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.

Timor-Leste - MCV1

TLS - MCV1



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	48	61	63	73	70	66	62	73	70	74	70	78
Estimate GoC	●●●	●●●	●●●	●●●	●●●	●	●●●	●●●	●●●	●●	●	
Official	48	61	63	73	70	66	62	73	70	74	95	90
Administrative	48	61	63	73	70	66	62	73	70	74	70	98
Survey	NA	NA	NA	68	NA	NA	NA	77	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: 2015 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:

2016: Estimate is based on recomputed coverage reported by the country using target population data from the 2009 census. Reported data excluded. The reported target population estimates for 2016 are lower than those for 2015 due in part to a change from use of projections from the 2009 census to projections from the 2015 census. Reported data excluded due to unexplained sudden change in coverage from 70 level to 90 percent. WHO and UNICEF are aware of two sub-national surveys conducted during 2015 reflecting coverage for the 2013-14 birth cohorts and encourages efforts to appropriately re-weight the survey results to produce national level coverage results. The estimate is likely an underestimate of coverage based on reported increases in the number of children vaccinated in 2016 compared to 2015. The reported number of children vaccinated includes children beyond one-year of age but the proportion above one-year is unknown. WHO and UNICEF await the final results of the 2016 DHS to help inform the current gaps in the proportion of children receiving vaccination beyond one-year. Estimate challenged by: R-

2015: Estimate based on reported administrative data. Official government reported data based on two subnational surveys conducted during 2015. GoC=R+ D+

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

2013: Estimate based on coverage reported by national government. Programme reports four month stockout at national level and in four districts. GoC=R+ S+ D+

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 77 percent based on 1 survey(s). GoC=R+ S+ D+

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

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

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

2008: Estimate based on coverage reported by national government supported by survey. Survey evidence of 68 percent based on 1 survey(s). GoC=R+ S+ D+

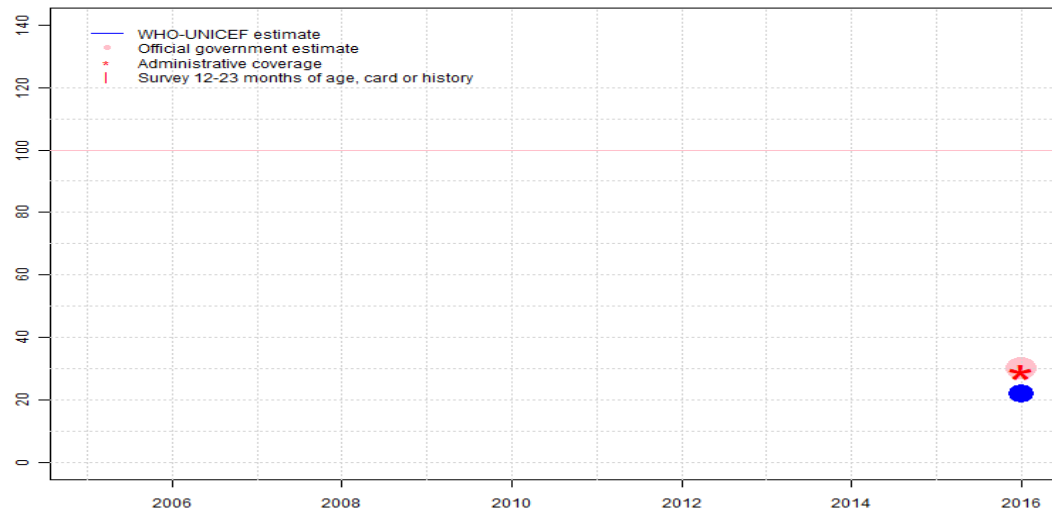
2007: Estimate based on coverage reported by national government. GoC=R+ S+ D+

2006: Estimate based on coverage reported by national government. GoC=R+ S+ D+

2005: Estimate based on coverage reported by national government. GoC=R+ S+ D+

Timor-Leste - MCV2

TLS - MCV2



Description:

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

2016: Second dose of measles containing vaccine introduced during 2016. Estimate is based on recomputed coverage reported by the country using target population data from the 2009 census. Estimate challenged by: R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22
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	30
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

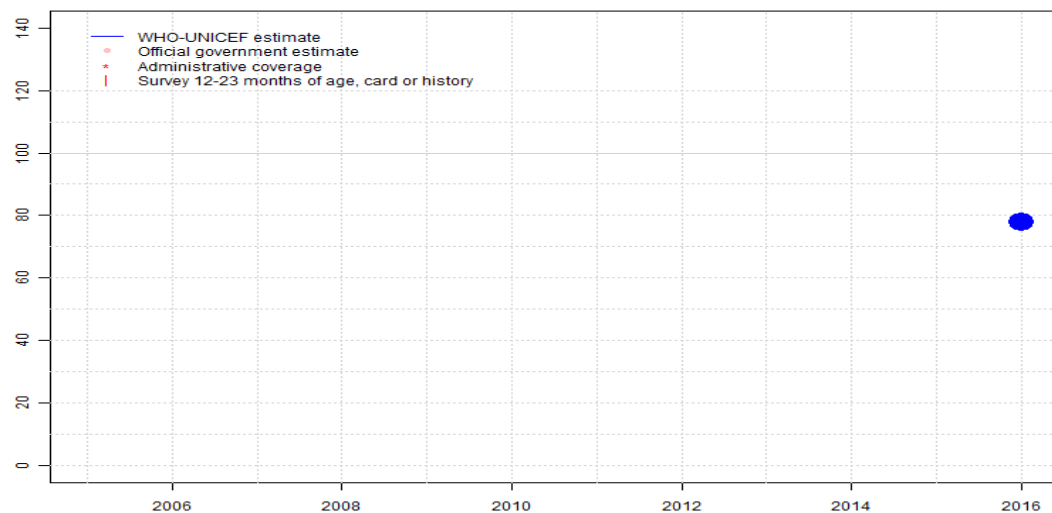
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2015 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.

Timor-Leste - RCV1

TLS - RCV1



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.

2016: Estimate is based on coverage for MCV1. Rubella containing vaccine introduced during 2016. Estimate challenged by: R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	78
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	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

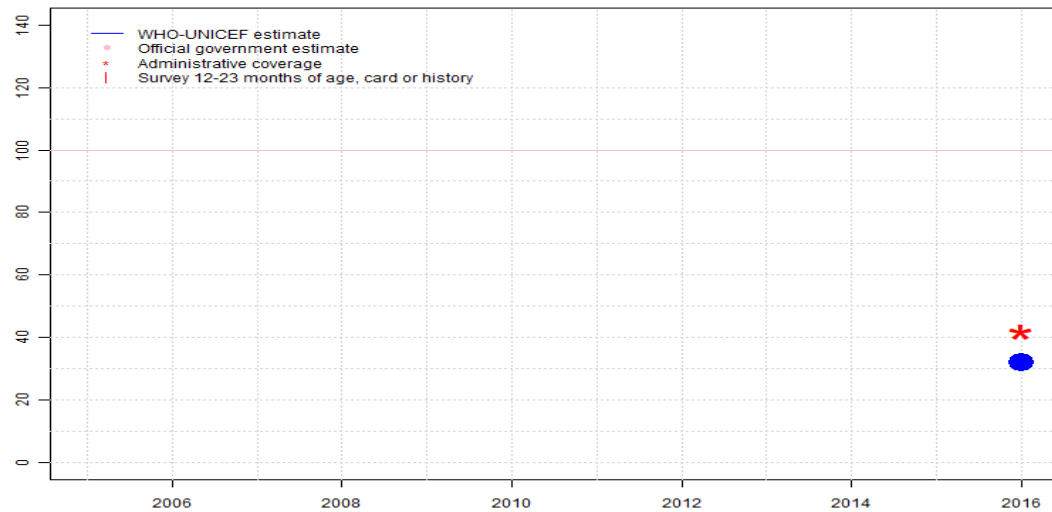
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2015 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.

Timor-Leste - HepBB

TLS - HepBB



Description:

2016: Estimate is based on recomputed coverage reported by the country using target population data from the 2009 census. Estimate challenged by: R-

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32
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	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	42
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

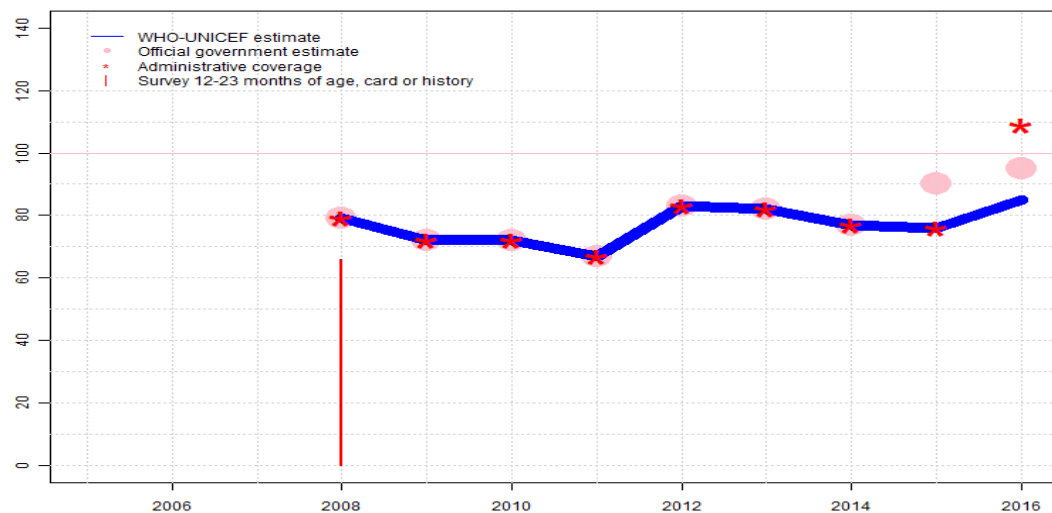
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2015 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.

Timor-Leste - HepB3

TLS - HepB3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	79	72	72	67	83	82	77	76	85
Estimate GoC	NA	NA	NA	●●●	●●●	●●●	●●	●●	●●	●●	●●	●
Official	NA	NA	NA	79	72	72	67	83	82	77	90	95
Administrative	NA	NA	NA	79	72	72	67	83	82	77	76	109
Survey	NA	NA	NA	66	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: 2015 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:

2016: Estimate is based on recomputed coverage reported by the country using target population data from the 2009 census. Reported data excluded. The reported target population estimates for 2016 are lower than those for 2015 due in part to a change from use of projections from the 2009 census to projections from the 2015 census. Reported data excluded due to unexplained sudden change in coverage from 76 level to 95 percent. WHO and UNICEF are aware of two sub-national surveys conducted during 2015 reflecting coverage for the 2013-14 birth cohorts and encourages efforts to appropriately re-weight the survey results to produce national level coverage results. The estimate is likely an underestimate of coverage based on reported increases in the number of children vaccinated in 2016 compared to 2015. The reported number of children vaccinated includes children beyond one-year of age but the proportion above one-year is unknown. WHO and UNICEF await the final results of the 2016 DHS to help inform the current gaps in the proportion of children receiving vaccination beyond one-year. Estimate challenged by: R-

2015: Estimate based on reported administrative data. Official government reported data based on two subnational surveys conducted during 2015. GoC=R+ D+

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

2013: Estimate based on coverage reported by national government. Vaccine presentation changed from DTP-HepB to DTP-HepB-Hib in October 2012. GoC=R+ D+

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

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

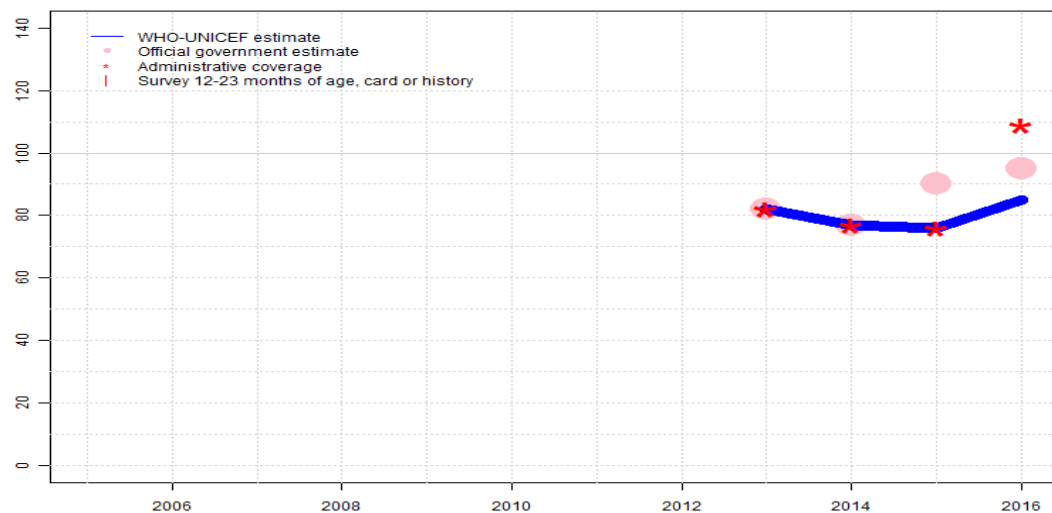
2010: Estimate based on coverage reported by national government. GoC=R+ S+ D+

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

2008: Estimate based on coverage reported by national government supported by survey. Survey evidence of 72 percent based on 1 survey(s). Timor-Leste Demographic and Health Survey 2009-10 card or history results of 66 percent modified for recall bias to 72 percent based on 1st dose card or history coverage of 66 percent, 1st dose card only coverage of 49 percent and 3d dose card only coverage of 47 percent. HepB vaccine introduced in 2007. Reporting started in 2008. Vaccine presentation is DTP-HepB. GoC=R+ S+ D+

Timor-Leste - Hib3

TLS - Hib3



Description:

- 2016: Estimate is based on recomputed coverage reported by the country using target population data from the 2009 census. Reported data excluded. The reported target population estimates for 2016 are lower than those for 2015 due in part to a change from use of projections from the 2009 census to projections from the 2015 census. Reported data excluded due to unexplained sudden change in coverage from 76 level to 95 percent. WHO and UNICEF are aware of two sub-national surveys conducted during 2015 reflecting coverage for the 2013-14 birth cohorts and encourages efforts to appropriately re-weight the survey results to produce national level coverage results. The estimate is likely an underestimate of coverage based on reported increases in the number of children vaccinated in 2016 compared to 2015. The reported number of children vaccinated includes children beyond one-year of age but the proportion above one-year is unknown. WHO and UNICEF await the final results of the 2016 DHS to help inform the current gaps in the proportion of children receiving vaccination beyond one-year. Estimate challenged by: R-
- 2015: Estimate based on reported administrative estimate. Official government reported data based on two subnational surveys conducted during 2015. GoC=R+ D+
- 2014: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Estimate based on coverage reported by national government. Vaccine introduced in October 2012 and reporting started in 2013. Vaccine presentation is DTP-HepB-Hib. GoC=R+ D+

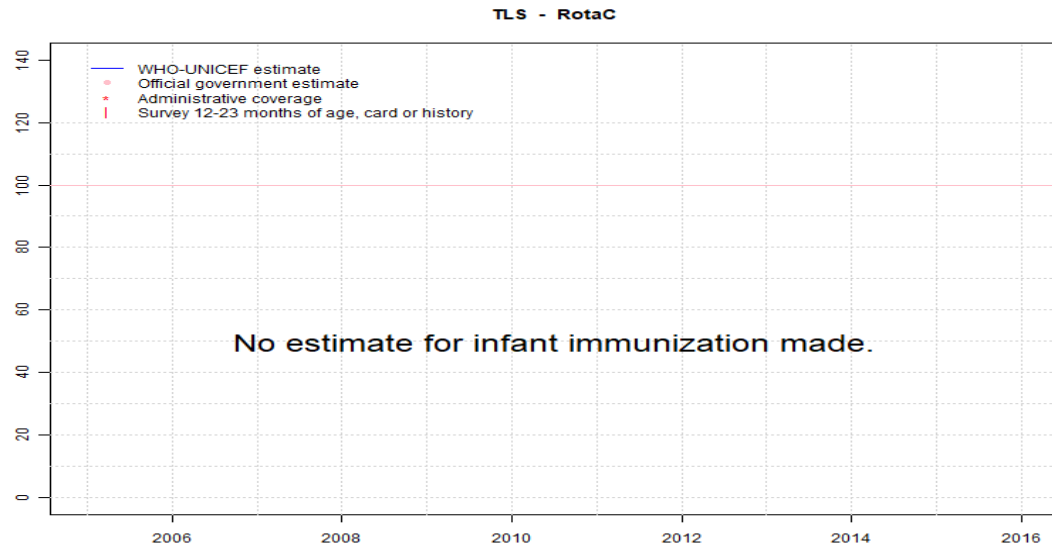
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	82	77	76	85
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	••	••	••	•
Official	NA	NA	NA	NA	NA	NA	NA	NA	82	77	90	95
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	82	77	76	109
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2015 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.

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Timor-Leste - RotaC



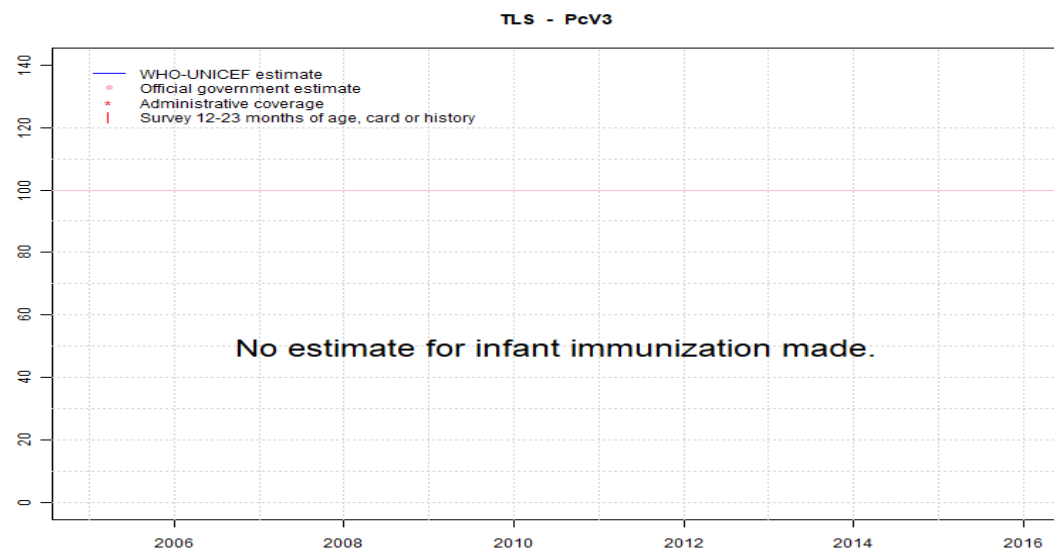
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 2015 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.

Timor-Leste - PcV3



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
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: 2015 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.

Timor-Leste - survey details

2012 Timor Leste Food and Nutrition Survey, 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	86	12-23 m	2396	86
DTP1	Card or History	84	12-23 m	2396	86
DTP3	Card or History	83	12-23 m	2396	86
MCV1	Card or History	77	12-23 m	2396	86
Pol1	Card or History	84	12-23 m	2396	86
Pol3	Card or History	82	12-23 m	2396	86

2010 Report on Coverage Evaluation Survey Measles Catch-up Activity, 2011 Timor-Leste

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
MCV1	History	70	6-11 m	210	-

2008 Timor-Leste Demographic and Health Survey 2009-10

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	77	12-23 m	1752	50
BCG	Card	49	12-23 m	1752	50
BCG	Card or History	77	12-23 m	1752	50
BCG	History	27	12-23 m	1752	50
DTP1	C or H <12 months	74	12-23 m	1752	50
DTP1	Card	49	12-23 m	1752	50
DTP1	Card or History	75	12-23 m	1752	50
DTP1	History	26	12-23 m	1752	50
DTP3	C or H <12 months	64	12-23 m	1752	50
DTP3	Card	47	12-23 m	1752	50
DTP3	Card or History	66	12-23 m	1752	50
DTP3	History	19	12-23 m	1752	50
HepB1	C or H <12 months	74	12-23 m	1752	50
HepB1	Card	49	12-23 m	1752	50
HepB1	Card or History	75	12-23 m	1752	50
HepB1	History	26	12-23 m	1752	50
HepB3	C or H <12 months	63	12-23 m	1752	50

HepB3	Card	47	12-23 m	1752	50
HepB3	Card or History	66	12-23 m	1752	50
HepB3	History	19	12-23 m	1752	50
MCV1	C or H <12 months	60	12-23 m	1752	50
MCV1	Card	45	12-23 m	1752	50
MCV1	Card or History	68	12-23 m	1752	50
MCV1	History	23	12-23 m	1752	50
Pol1	C or H <12 months	74	12-23 m	1752	50
Pol1	Card	49	12-23 m	1752	50
Pol1	Card or History	75	12-23 m	1752	50
Pol1	History	26	12-23 m	1752	50
Pol3	C or H <12 months	54	12-23 m	1752	50
Pol3	Card	47	12-23 m	1752	50
Pol3	Card or History	56	12-23 m	1752	50
Pol3	History	9	12-23 m	1752	50

2003 Immunization coverage among women and children 12-23 months in the Democratic Republic of Timor Lest Using the EPI cluster survey methodology

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	25	12-23 m	2662	26
BCG	Card or history	72	12-23 m	2662	26
DTP1	Card	20	12-23 m	2662	26
DTP1	Card or history	65	12-23 m	2662	26
DTP3	Card	17	12-23 m	2662	26
DTP3	Card or history	57	12-23 m	2662	26
MCV1	Card	15	12-23 m	2662	26
MCV1	Card or history	55	12-23 m	2662	26
Pol1	Card	20	12-23 m	2662	26
Pol1	Card or history	65	12-23 m	2662	26
Pol3	Card	17	12-23 m	2662	26
Pol3	Card or history	57	12-23 m	2662	26

2002 Timor-Leste 2003 Demographic and Health Survey

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	75	12-23 m	722	12

Timor-Leste - survey details

DTP1	Card or History	68	12-23 m	722	12
DTP3	Card or History	38	12-23 m	722	12
MCV1	Card or History	56	12-23 m	722	12
Pol1	Card or History	69	12-23 m	722	12
Pol3	Card or History	26	12-23 m	722	12

2001 Multiple Indicator Cluster Survey Timor-Leste 2002

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	34	12-23 m	988	10
BCG	Card	9	12-23 m	988	10
BCG	Card or History	37	12-23 m	988	10
BCG	History	28	12-23 m	988	10
DTP1	C or H <12 months	34	12-23 m	988	10
DTP1	Card	9	12-23 m	988	10
DTP1	Card or History	35	12-23 m	988	10

DTP1	History	26	12-23 m	988	10
DTP3	C or H <12 months	17	12-23 m	988	10
DTP3	Card	5	12-23 m	988	10
DTP3	Card or History	18	12-23 m	988	10
DTP3	History	13	12-23 m	988	10
MCV1	C or H <12 months	24	12-23 m	988	10
MCV1	Card	5	12-23 m	988	10
MCV1	Card or History	28	12-23 m	988	10
MCV1	History	22	12-23 m	988	10
Pol1	C or H <12 months	34	12-23 m	988	10
Pol1	Card	7	12-23 m	988	10
Pol1	Card or History	37	12-23 m	988	10
Pol1	History	30	12-23 m	988	10
Pol3	C or H <12 months	16	12-23 m	988	10
Pol3	Card	4	12-23 m	988	10
Pol3	Card or History	16	12-23 m	988	10
Pol3	History	12	12-23 m	988	10

Further information and estimates for previous years are available at:

<http://www.data.unicef.org/child-health/immunization>

http://www.who.int/immunization/monitoring_surveillance/routine/coverage/en/index4.html