

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.

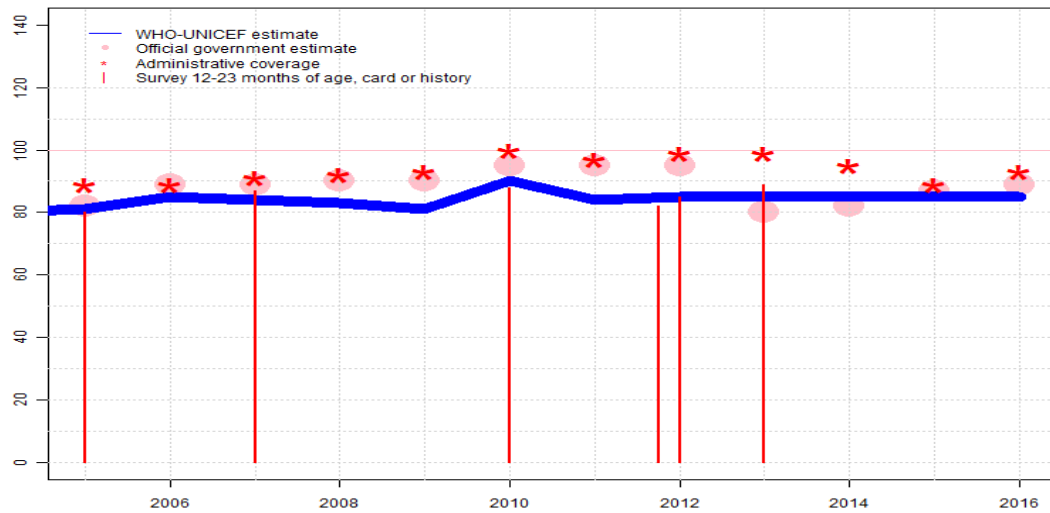
PcV3: percentage of surviving infants who received the 3rd dose of pneumococcal conjugate vaccine. In countries where the national schedule recommends two doses during infancy and a booster dose at 12 months or later based on the epidemiology of disease in the country, coverage estimates may reflect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

PAK - BCG



| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 81 | 85 | 84 | 83 | 81 | 90 | 84 | 85 | 85 | 85 | 85 | 85 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 82 | 89 | 89 | 90 | 90 | 95 | 95 | 95 | 80 | 82 | 87 | 89 |
| Administrative | 89 | 89 | 91 | 92 | 93 | 100 | 97 | 99 | 99 | 95 | 89 | 93 |
| Survey | 80 | NA | 87 | NA | NA | 88 | NA | * | 89 | 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:

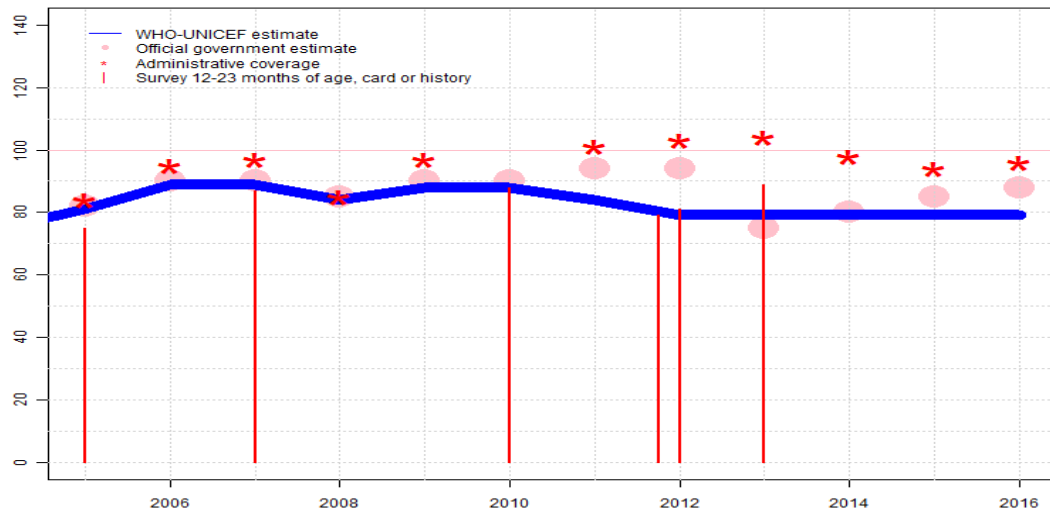
- 2016: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Across vaccines the reported number of children vaccinated increased from levels reported in 2015 but either remain below the reported levels for 2014 or reported coverage levels remain unchanged. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Programme reports three month national level stock-out of BCG vaccine. Estimate challenged by: D-R-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported target population increase from 2013 to 2014, which was larger than any prior year-to-year change, is also unexplained while the number of children vaccinated remained largely unchanged from 2013 to 2014. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2012 levels. Survey results ignored. Sample size 0 less than 300. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Estimate challenged by: D-R-
- 2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 85 percent based on 1 survey(s). Survey results ignored. Sample size 0 less than 300. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2004 and 2012 levels. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-
- 2010: Reported data calibrated to 2004 and 2012 levels. Pakistan Social and Living Standards Measurement Survey 2010-2011 results ignored by working group. Home-based record retention not reported. HBR only coverage inconsistent with card retention levels and maximum possible card only coverage observed in two surveys during 2006 and one survey in 2012-13. Increase in administrative coverage is partially due to the reduction in growth rate used in population projections (from 2.6 to 1.9). Methodology for adjusted national estimates unclear. Estimate challenged by: D-R-
- 2009: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-R-

Pakistan - BCG

- 2008: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-R-
- 2007: Reported data calibrated to 2004 and 2012 levels. Pakistan Social and Living Standards Measurement Survey 2008-2009 results ignored by working group. Card retention not reported. Card only coverage inconsistent with card retention levels and maximum possible card only coverage observed in two surveys during 2006 and one survey in 2012-13. Estimate challenged by: D-R-
- 2006: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-R-
- 2005: Reported data calibrated to 2004 and 2012 levels. Pakistan Demographic and Health Survey 2006-07 results ignored by working group. DHS 2005 survey results with sample size of 1,522 inconsistent with 2004 National Coverage survey with sample size of 72,280. Estimate challenged by: D-R-

Pakistan - DTP1

PAK - DTP1



| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 81 | 89 | 89 | 84 | 88 | 88 | 84 | 79 | 79 | 79 | 79 | 79 |
| Estimate GoC | ● | ● | ● | ● | ● | ●● | ● | ● | ● | ● | ● | ● |
| Official | 82 | 90 | 90 | 85 | 90 | 90 | 94 | 94 | 75 | 80 | 85 | 88 |
| Administrative | 84 | 95 | 97 | 85 | 97 | NA | 101 | 103 | 104 | 98 | 94 | 96 |
| Survey | 75 | NA | 87 | NA | NA | 88 | NA | * | 89 | 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: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Across vaccines the reported number of children vaccinated increased from levels reported in 2015 but either remain below the reported levels for 2014 or reported coverage levels remain unchanged. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Estimate challenged by: D-R-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported target population increase from 2013 to 2014, which was larger than any prior year-to-year change, is also unexplained while the number of children vaccinated remained largely unchanged from 2013 to 2014. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2012 levels. Survey results ignored. Sample size 0 less than 300. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Estimate challenged by: D-R-
- 2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 79 percent based on 1 survey(s). Survey results ignored. Sample size 0 less than 300. Reported data excluded because 103 percent greater than 100 percent. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Methodology for adjusted national estimates unclear. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2010 and 2012 levels. Reported data excluded because 101 percent greater than 100 percent. Methodology for adjusted national estimates unclear. Estimate challenged by: D-R-
- 2010: Estimate of 88 percent assigned by working group. Estimate is based on survey results. Pakistan Social and Living Standards Measurement Survey 2010-2011 results ignored by working group. Home-based record retention not reported. HBR only coverage inconsistent with card retention levels and maximum possible card only coverage observed in two surveys during 2006 and one survey in 2012-13. Methodology for adjusted national estimates unclear. GoC=S+
- 2009: Reported data calibrated to 2004 and 2010 levels. Estimate challenged by: D-R-
- 2008: Reported data calibrated to 2004 and 2010 levels. Estimate challenged by: D-R-
- 2007: Reported data calibrated to 2004 and 2010 levels. Pakistan Social and Living Standards

Pakistan - DTP1

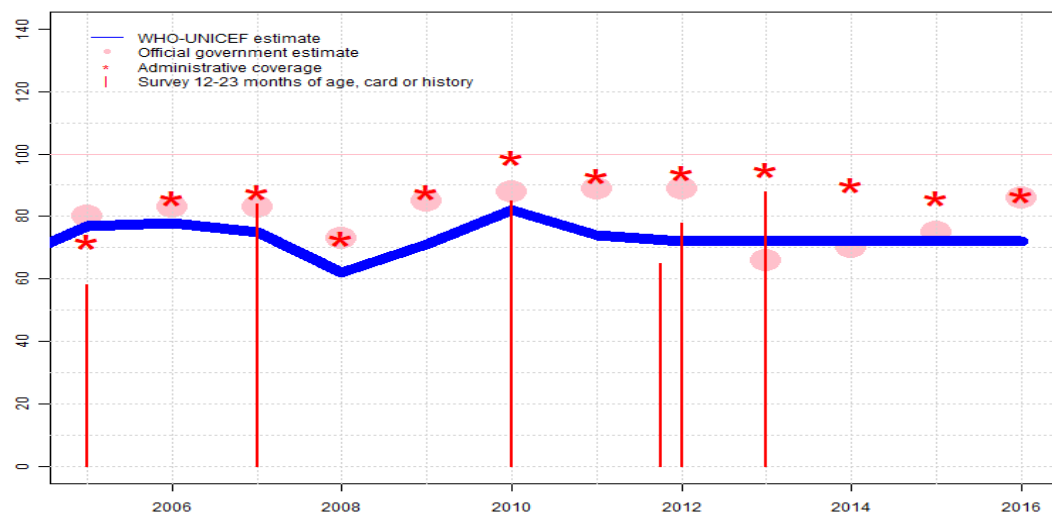
Measurement Survey 2008-2009 results ignored by working group. Card retention not reported. Card only coverage inconsistent with card retention levels and maximum possible card only coverage observed in two surveys during 2006 and one survey in 2012-13. Estimate challenged by: D-R-

2006: Reported data calibrated to 2004 and 2010 levels. Estimate challenged by: D-R-S-

2005: Reported data calibrated to 2004 and 2010 levels. Pakistan Demographic and Health Survey 2006-07 results ignored by working group. DHS 2005 survey results with sample size of 1,522 inconsistent with 2004 National Coverage survey with sample size of 72,280. Estimate challenged by: D-R-

Pakistan - DTP3

PAK - DTP3



| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 77 | 78 | 75 | 62 | 71 | 82 | 74 | 72 | 72 | 72 | 72 | 72 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 80 | 83 | 83 | 73 | 85 | 88 | 89 | 89 | 66 | 70 | 75 | 86 |
| Administrative | 72 | 86 | 88 | 73 | 88 | 99 | 93 | 94 | 95 | 90 | 86 | 87 |
| Survey | 58 | NA | 84 | NA | NA | 85 | NA | * | 88 | 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: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported data excluded due to unexplained sudden change in coverage from 75 level to 86 percent. Across vaccines the reported number of children vaccinated increased from levels reported in 2015 but either remain below the reported levels for 2014 or reported coverage levels remain unchanged. Estimate challenged by: D-R-

2015: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Estimate challenged by: D-R-

2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported target population increase from 2013 to 2014, which was larger than any prior year-to-year change, is also unexplained while the number of children vaccinated remained largely unchanged from 2013 to 2014. Estimate challenged by: D-R-

2013: Reported data calibrated to 2012 levels. Survey results ignored. Sample size 0 less than 300. Pakistan Social and Living Standards Measurement Survey (PSLM), 2014-15 card or history results of 88 percent modified for recall bias to 89 percent based on 1st dose card or history coverage of 89 percent, 1st dose card only coverage of 65 percent and 3d dose card only coverage of 65 percent. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Estimate challenged by: D-R-

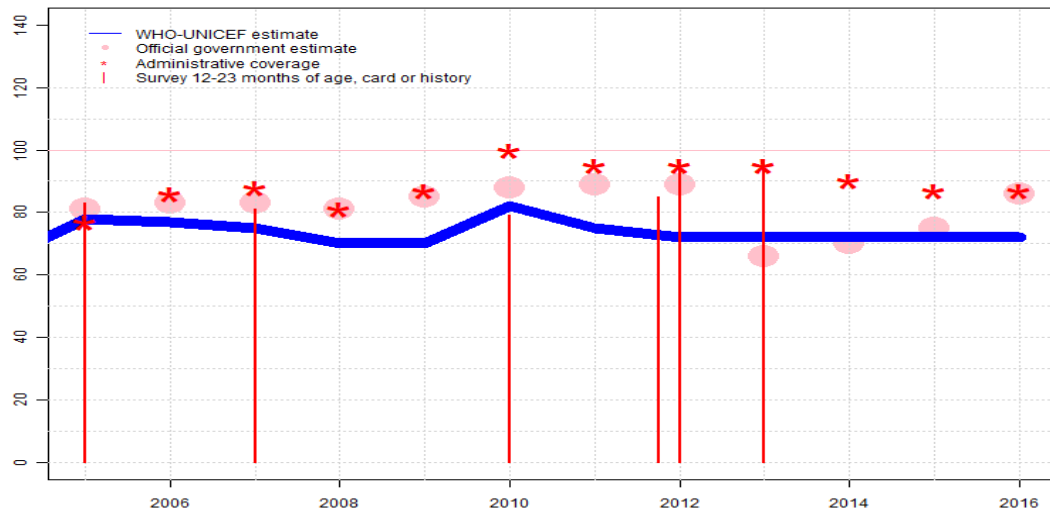
2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 72 percent based on 1 survey(s). Survey results ignored. Sample size 0 less than 300. Pakistan Demographic and Health Survey 2012-2013 card or history results of 65 percent modified for recall bias to 72 percent based on 1st dose card or history coverage of 79 percent, 1st dose card only coverage of 35 percent and 3d dose card only coverage of 32 percent. Pakistan Social and Living Standards Measurement Survey (PSLM), 2013-14 card or history results of 78 percent modified for recall bias to 80 percent based on 1st dose card or history coverage of 81 percent, 1st dose card only coverage of 62 percent and 3d dose card only coverage of 61 percent. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-

Pakistan - DTP3

- 2011: Reported data calibrated to 2004 and 2012 levels. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-
- 2010: Reported data calibrated to 2004 and 2012 levels. Pakistan Social and Living Standards Measurement Survey 2010-2011 results ignored by working group. Home-based record retention not reported. HBR only coverage inconsistent with card retention levels and maximum possible card only coverage observed in two surveys during 2006 and one survey in 2012-13. Pakistan Social and Living Standards Measurement Survey 2010-2011 card or history results of 85 percent modified for recall bias to 86 percent based on 1st dose card or history coverage of 88 percent, 1st dose card only coverage of 57 percent and 3d dose card only coverage of 56 percent. Increase in administrative coverage is partially due to the reduction in growth rate used in population projections (from 2.6 to 1.9). Methodology for adjusted national estimates unclear. Estimate challenged by: D-R-
- 2009: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-R-
- 2008: Reported data calibrated to 2004 and 2012 levels. Supplies of DTP-HepB vaccine were available until mid-2008 when DTP-HepB-Hib pentavalent vaccine introduction was planned. Introduction of pentavalent vaccine was postponed because of delays in transfer of funds by GAVI secretariat resulting in a decline Estimate challenged by: D-R-
- 2007: Reported data calibrated to 2004 and 2012 levels. Pakistan Social and Living Standards Measurement Survey 2008-2009 results ignored by working group. Card retention not reported. Card only coverage inconsistent with card retention levels and maximum possible card only coverage observed in two surveys during 2006 and one survey in 2012-13. Pakistan Social and Living Standards Measurement Survey 2008-2009 card or history results of 84 percent modified for recall bias to 85 percent based on 1st dose card or history coverage of 87 percent, 1st dose card only coverage of 52 percent and 3d dose card only coverage of 51 percent. Estimate challenged by: D-R-
- 2006: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-R-
- 2005: Reported data calibrated to 2004 and 2012 levels. Pakistan Demographic and Health Survey 2006-07 results ignored by working group. DHS 2005 survey results with sample size of 1,522 inconsistent with 2004 National Coverage survey with sample size of 72,280. Pakistan Demographic and Health Survey 2006-07 card or history results of 58 percent modified for recall bias to 68 percent based on 1st dose card or history coverage of 75 percent, 1st dose card only coverage of 23 percent and 3d dose card only coverage of 21 percent. Estimate challenged by: D-R-

Pakistan - Pol3

PAK - Pol3



| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 78 | 77 | 75 | 70 | 70 | 82 | 75 | 72 | 72 | 72 | 72 | 72 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 81 | 83 | 83 | 81 | 85 | 88 | 89 | 89 | 66 | 70 | 75 | 86 |
| Administrative | 77 | 86 | 88 | 81 | 87 | 100 | 95 | 95 | 95 | 90 | 87 | 87 |
| Survey | 83 | NA | 81 | NA | NA | 79 | NA | * | 97 | 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: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported data excluded due to unexplained sudden change in coverage from 75 level to 86 percent. Across vaccines the reported number of children vaccinated increased from levels reported in 2015 but either remain below the reported levels for 2014 or reported coverage levels remain unchanged. Estimate challenged by: D-R-

2015: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Estimate challenged by: D-R-

2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported target population increase from 2013 to 2014, which was larger than any prior year-to-year change, is also unexplained while the number of children vaccinated remained largely unchanged from 2013 to 2014. Estimate challenged by: D-R-

2013: Reported data calibrated to 2012 levels. Survey results ignored. Sample size 0 less than 300. Pakistan Social and Living Standards Measurement Survey (PSLM), 2014-15 card or history results of 97 percent modified for recall bias to 98 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 65 percent and 3d dose card only coverage of 65 percent. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Estimate challenged by: D-R-

2012: Estimate of 72 percent assigned by working group. Estimated is based on DTP3 coverage level. Survey results ignored. Sample size 0 less than 300. Pakistan Demographic and Health Survey 2012-2013 results ignored by working group. Survey results likely reflect doses received during campaigns. Pakistan Social and Living Standards Measurement Survey (PSLM), 2013-14 results ignored by working group. Survey results likely reflect doses received during campaigns. Pakistan Demographic and Health Survey 2012-2013 card or history results of 85 percent modified for recall bias to 87 percent based on 1st dose card or history coverage of 92 percent, 1st dose card only coverage of 35 percent and 3d dose card only coverage of 33 percent. Pakistan Social and Living Standards Measurement Survey (PSLM), 2013-14 card or history results of 96 percent modified for recall bias to 98 percent based on 1st dose card or history coverage of 98 percent, 1st dose card only coverage of 62 percent and 3d dose card only coverage of 62 percent. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does

not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-

2011: Reported data calibrated to 2004 and 2012 levels. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-

2010: Reported data calibrated to 2004 and 2012 levels. Pakistan Social and Living Standards Measurement Survey 2010-2011 results ignored by working group. Home-based record retention not reported. HBR only coverage inconsistent with card retention levels and maximum possible card only coverage observed in two surveys during 2006 and one survey in 2012-13. Pakistan Social and Living Standards Measurement Survey 2010-2011 card or history results of 79 percent modified for recall bias to 80 percent based on 1st dose card or history coverage of 81 percent, 1st dose card only coverage of 54 percent and 3d dose card only coverage of 53 percent. Increase in administrative coverage is partially due to the reduction in growth rate used in population projections (from 2.6 to 1.9). Methodology for adjusted national estimates unclear. Estimate challenged by: D-R-

2009: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-R-

2008: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-R-

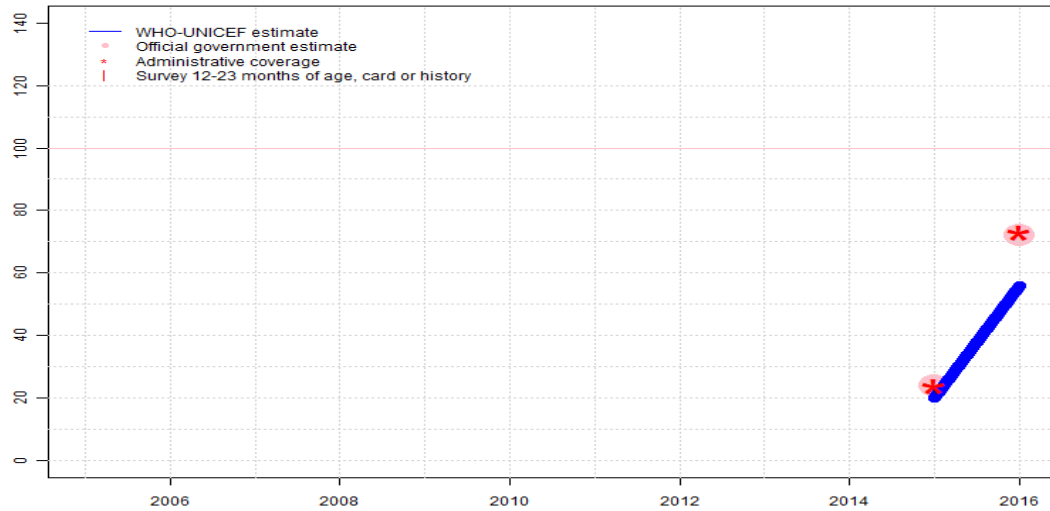
2007: Reported data calibrated to 2004 and 2012 levels. Pakistan Social and Living Standards Measurement Survey 2008-2009 results ignored by working group. Card retention not reported. Card only coverage inconsistent with card retention levels and maximum possible card only coverage observed in two surveys during 2006 and one survey in 2012-13. Estimate challenged by: D-R-

2006: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-R-

2005: Reported data calibrated to 2004 and 2012 levels. Pakistan Demographic and Health Survey 2006-07 results ignored by working group. DHS 2005 survey results with sample size of 1,522 inconsistent with 2004 National Coverage survey with sample size of 72,280. Pakistan Demographic and Health Survey 2006-07 card or history results of 83 percent modified for recall bias to 85 percent based on 1st dose card or history coverage of 93 percent, 1st dose card only coverage of 23 percent and 3d dose card only coverage of 21 percent. Estimate challenged by: D-R-S-

Pakistan - IPV1

PAK - IPV1



Description:

2016: Estimate is based on DTP3 coverage adjusted by the relative difference in the reported number of children vaccinated with DTP3 and IPV1. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported data excluded due to unexplained sudden change in coverage from 24 level to 72 percent. Across vaccines the reported number of children vaccinated increased from levels reported in 2015 but either remain below the reported levels for 2014 or reported coverage levels remain unchanged. Estimate challenged by: D-R-

2015: IPV introduced during 2015. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. 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 | 20 | 56 |
| Estimate GoC | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | • | • |
| Official | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 24 | 72 |
| Administrative | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 24 | 73 |
| Survey | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

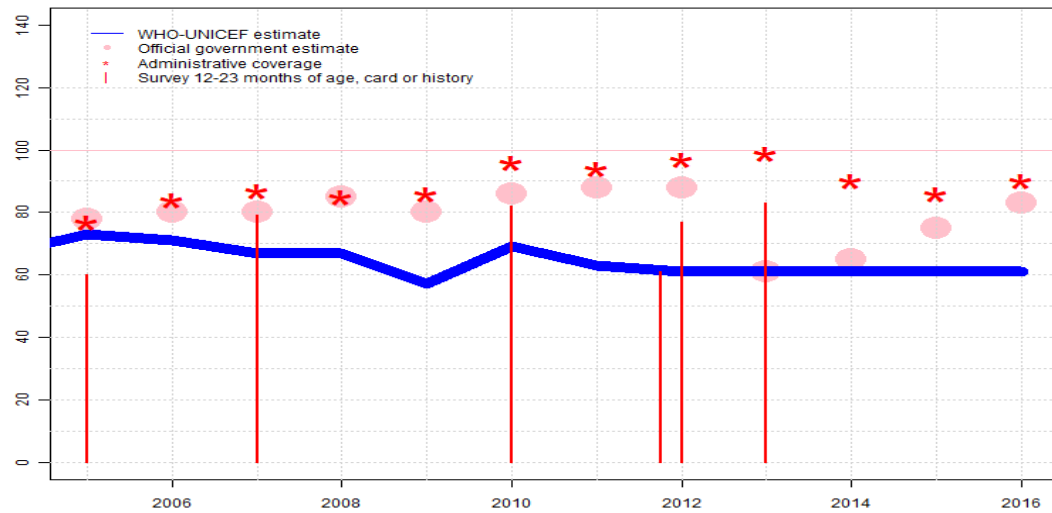
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Pakistan - MCV1

PAK - MCV1



| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 73 | 71 | 67 | 67 | 57 | 69 | 63 | 61 | 61 | 61 | 61 | 61 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 78 | 80 | 80 | 85 | 80 | 86 | 88 | 88 | 61 | 65 | 75 | 83 |
| Administrative | 77 | 84 | 87 | 85 | 86 | 96 | 94 | 97 | 99 | 90 | 86 | 90 |
| Survey | 60 | NA | 79 | NA | NA | 82 | NA | * | 83 | 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:

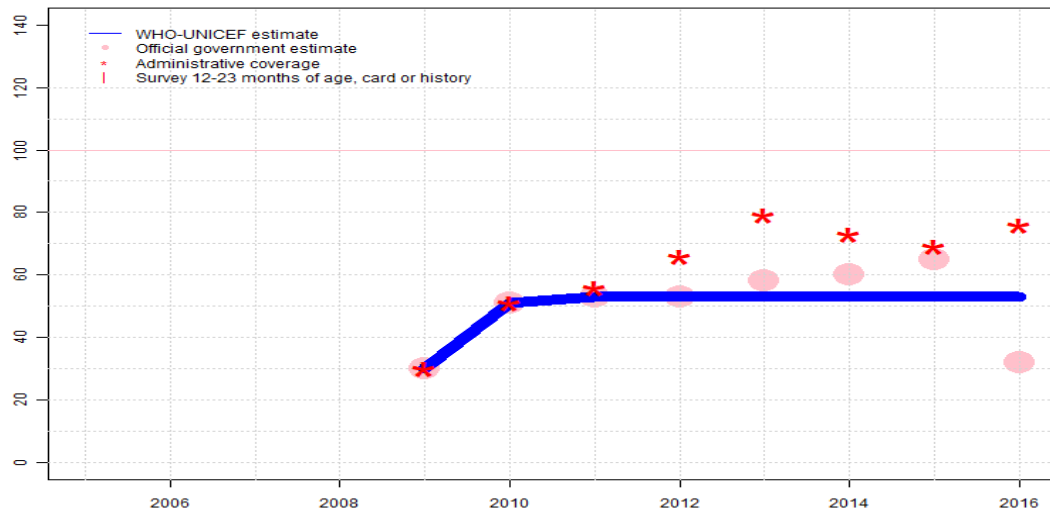
- 2016: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Across vaccines the reported number of children vaccinated increased from levels reported in 2015 but either remain below the reported levels for 2014 or reported coverage levels remain unchanged. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Estimate challenged by: D-R-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported target population increase from 2013 to 2014, which was larger than any prior year-to-year change, is also unexplained while the number of children vaccinated remained largely unchanged from 2013 to 2014. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2012 levels. Survey results ignored. Sample size 0 less than 300. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Estimate challenged by: D-R-
- 2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 61 percent based on 1 survey(s). Survey results ignored. Sample size 0 less than 300. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-
- 2011: Reported data calibrated to 2004 and 2012 levels. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-
- 2010: Reported data calibrated to 2004 and 2012 levels. Pakistan Social and Living Standards Measurement Survey 2010-2011 results ignored by working group. Home-based record retention not reported. HBR only coverage inconsistent with card retention levels and maximum possible card only coverage observed in two surveys during 2006 and one survey in 2012-13. Increase in administrative coverage is partially due to the reduction in growth rate used in population projections (from 2.6 to 1.9). Methodology for adjusted national estimates unclear. Estimate challenged by: D-R-
- 2009: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-R-
- 2008: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-R-

Pakistan - MCV1

- 2007: Reported data calibrated to 2004 and 2012 levels. Pakistan Social and Living Standards Measurement Survey 2008-2009 results ignored by working group. Card retention not reported. Card only coverage inconsistent with card retention levels and maximum possible card only coverage observed in two surveys during 2006 and one survey in 2012-13. Estimate challenged by: D-R-
- 2006: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-R-
- 2005: Reported data calibrated to 2004 and 2012 levels. Pakistan Demographic and Health Survey 2006-07 results ignored by working group. DHS 2005 survey results with sample size of 1,522 inconsistent with 2004 National Coverage survey with sample size of 72,280. Estimate challenged by: D-R-

Pakistan - MCV2

PAK - MCV2



| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA | NA | NA | NA | 30 | 51 | 53 | 53 | 53 | 53 | 53 | 53 |
| Estimate GoC | NA | NA | NA | NA | •• | •• | • | • | • | • | • | • |
| Official | NA | NA | NA | NA | 30 | 51 | 53 | 53 | 58 | 60 | 65 | 32 |
| Administrative | NA | NA | NA | NA | 30 | 51 | 56 | 66 | 79 | 73 | 69 | 76 |
| 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.

Description:

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

2016: Estimate based on extrapolation from data reported by national government. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported data excluded due to unexplained sudden change in coverage from 65 level to 32 percent. Across vaccines the reported number of children vaccinated increased from levels reported in 2015 but either remain below the reported levels for 2014 or reported coverage levels remain unchanged. Estimate challenged by: D-

2015: Estimate based on extrapolation from data reported by national government. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Estimate challenged by: D-

2014: Estimate based on extrapolation from data reported by national government. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Estimate challenged by: D-

2013: Estimate based on extrapolation from data reported by national government. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Estimate challenged by: D-

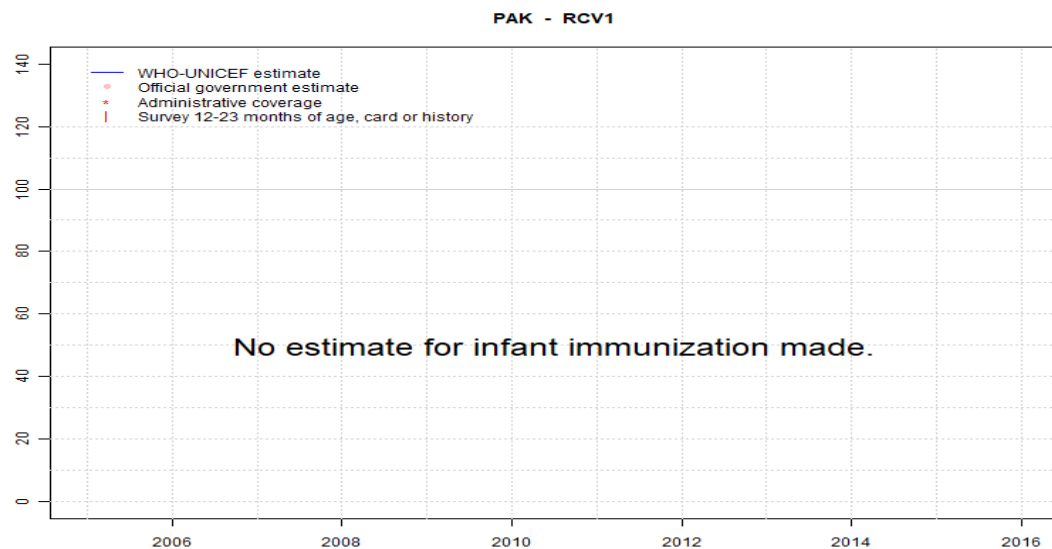
2012: Estimate based on coverage reported by national government. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Estimate challenged by: D-

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

2010: Estimate based on reported administrative estimate. Methodology for adjusted national estimates unclear. GoC=R+ D+

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

Pakistan - RCV1



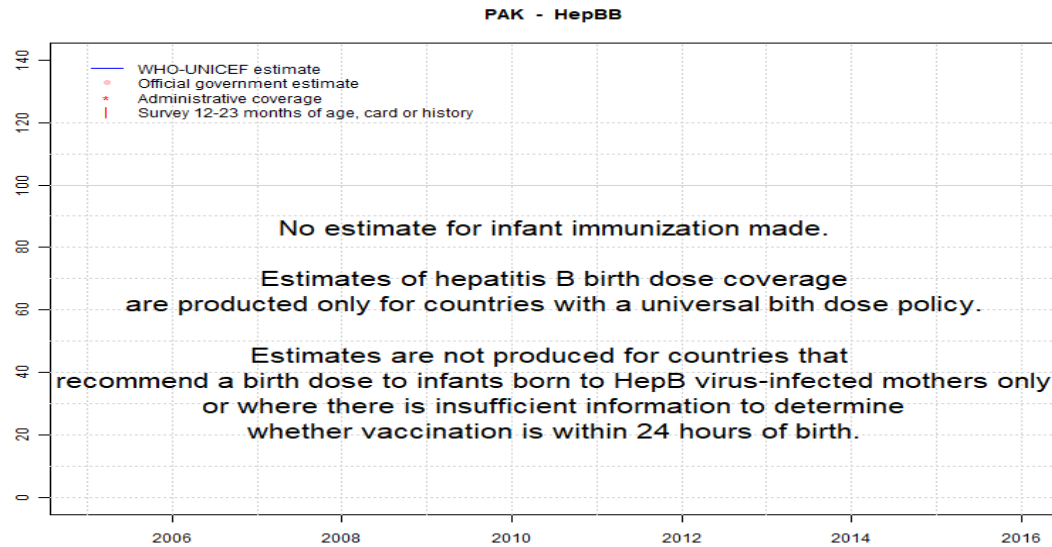
| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Estimate GoC | NA | NA | NA | NA | 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.

Pakistan - HepBB



| | 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 |

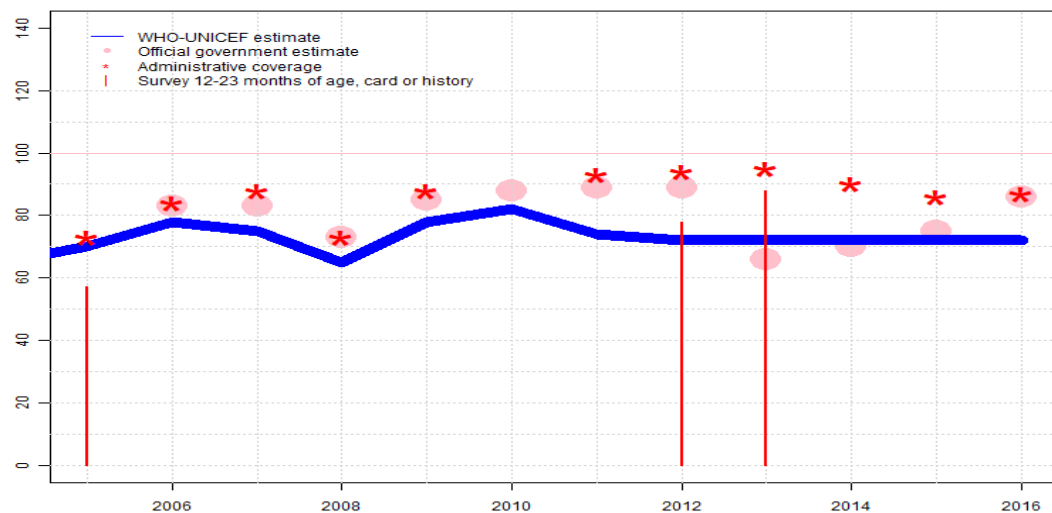
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Pakistan - HepB3

PAK - HepB3



| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 70 | 78 | 75 | 65 | 78 | 82 | 74 | 72 | 72 | 72 | 72 | 72 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | NA | 83 | 83 | 73 | 85 | 88 | 89 | 89 | 66 | 70 | 75 | 86 |
| Administrative | 73 | 84 | 88 | 73 | 88 | NA | 93 | 94 | 95 | 90 | 86 | 87 |
| Survey | 57 | NA | NA | NA | NA | NA | NA | 78 | 88 | 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: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported data excluded due to unexplained sudden change in coverage from 75 level to 86 percent. Across vaccines the reported number of children vaccinated increased from levels reported in 2015 but either remain below the reported levels for 2014 or reported coverage levels remain unchanged. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Estimate challenged by: D-R-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported target population increase from 2013 to 2014, which was larger than any prior year-to-year change, is also unexplained while the number of children vaccinated remained largely unchanged from 2013 to 2014. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2012 levels. Survey results ignored. Sample size 0 less than 300. Pakistan Social and Living Standards Measurement Survey (PSLM), 2014-15 card or history results of 88 percent modified for recall bias to 89 percent based on 1st dose card or history coverage of 89 percent, 1st dose card only coverage of 65 percent and 3d dose card only coverage of 65 percent. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Estimate challenged by: D-R-
- 2012: Estimate of 72 percent assigned by working group. Estimate is based on DTP3 level. Survey results ignored. Sample size 0 less than 300. Pakistan Social and Living Standards Measurement Survey (PSLM), 2013-14 card or history results of 78 percent modified for recall bias to 80 percent based on 1st dose card or history coverage of 81 percent, 1st dose card only coverage of 62 percent and 3d dose card only coverage of 61 percent. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-
- 2011: Estimate is based on DTP3 coverage level. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-
- 2010: Estimate of 82 percent assigned by working group. Estimate is based on DTP3 coverage

Pakistan - HepB3

level. Methodology for adjusted national estimates unclear. GoC=No accepted empirical data

2009: Reported data calibrated to 2007 and 2010 levels. Estimate challenged by: D-R-

2008: Reported data calibrated to 2007 and 2010 levels. Estimate challenged by: D-R-

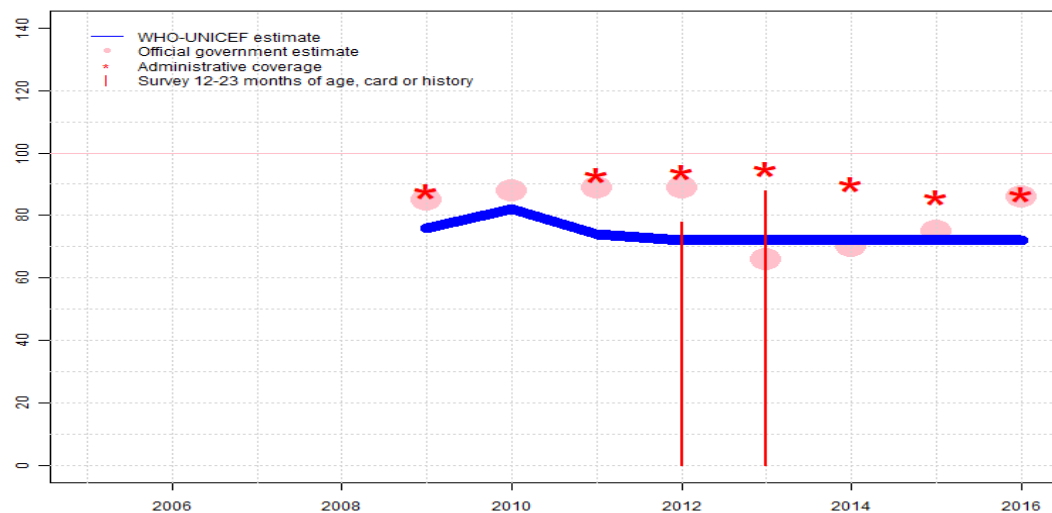
2007: Estimate of 75 percent assigned by working group. Estimate is based on DTP3 coverage level. DTP-HepB vaccine introduced in July 2006. Estimate challenged by: D-R-

2006: Reported data calibrated to 2004 and 2007 levels. Estimate challenged by: D-R-S-

2005: Reported data calibrated to 2004 and 2007 levels. Pakistan Demographic and Health Survey 2006-07 results ignored by working group. DHS 2005 survey results with sample size of 1,522 inconsistent with 2004 National Coverage survey with sample size of 72,280. Pakistan Demographic and Health Survey 2006-07 card or history results of 57 percent modified for recall bias to 65 percent based on 1st dose card or history coverage of 71 percent, 1st dose card only coverage of 23 percent and 3d dose card only coverage of 21 percent. Estimate challenged by: D-R-

Pakistan - Hib3

PAK - Hib3



| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA | NA | NA | NA | 76 | 82 | 74 | 72 | 72 | 72 | 72 | 72 |
| Estimate GoC | NA | NA | NA | NA | • | • | • | • | • | • | • | • |
| Official | NA | NA | NA | NA | 85 | 88 | 89 | 89 | 66 | 70 | 75 | 86 |
| Administrative | NA | NA | NA | NA | 88 | NA | 93 | 94 | 95 | 90 | 86 | 87 |
| Survey | NA | NA | NA | NA | NA | NA | NA | 78 | 88 | 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:

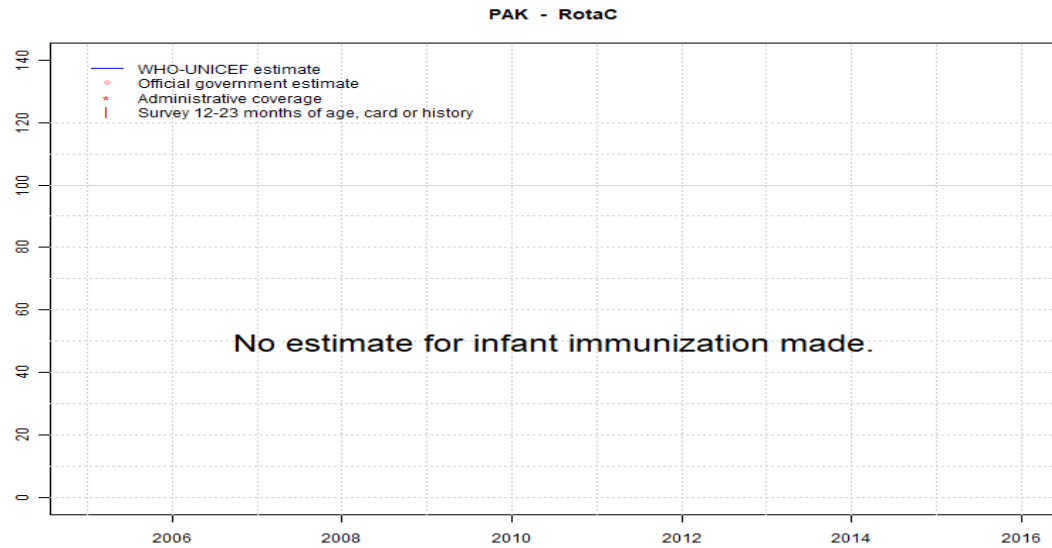
- 2016: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported data excluded due to unexplained sudden change in coverage from 75 level to 86 percent. Across vaccines the reported number of children vaccinated increased from levels reported in 2015 but either remain below the reported levels for 2014 or reported coverage levels remain unchanged. Estimate challenged by: D-R-
- 2015: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Estimate challenged by: D-R-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported target population increase from 2013 to 2014, which was larger than any prior year-to-year change, is also unexplained while the number of children vaccinated remained largely unchanged from 2013 to 2014. Estimate challenged by: D-R-
- 2013: Reported data calibrated to 2012 levels. Survey results ignored. Sample size 0 less than 300. Pakistan Social and Living Standards Measurement Survey (PSLM), 2014-15 card or history results of 88 percent modified for recall bias to 89 percent based on 1st dose card or history coverage of 89 percent, 1st dose card only coverage of 65 percent and 3d dose card only coverage of 65 percent. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Estimate challenged by: D-R-
- 2012: Estimate of 72 percent assigned by working group. Estimate is based on DTP3 level. Survey results ignored. Sample size 0 less than 300. Pakistan Social and Living Standards Measurement Survey (PSLM), 2013-14 card or history results of 78 percent modified for recall bias to 80 percent based on 1st dose card or history coverage of 81 percent, 1st dose card only coverage of 62 percent and 3d dose card only coverage of 61 percent. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-
- 2011: Estimate of 74 percent assigned by working group. Estimate is based on DTP3 level. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-

Pakistan - Hib3

2010: Estimate of 82 percent assigned by working group. Estimate is based on DTP3 survey results. Methodology for adjusted national estimates unclear. GoC=No accepted empirical data

2009: Estimate is based on DTP3 levels. Hib vaccine introduced in 2009 Vaccine presentation is DTP-HepB-Hib. Estimate challenged by: D-R-

Pakistan - 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 |

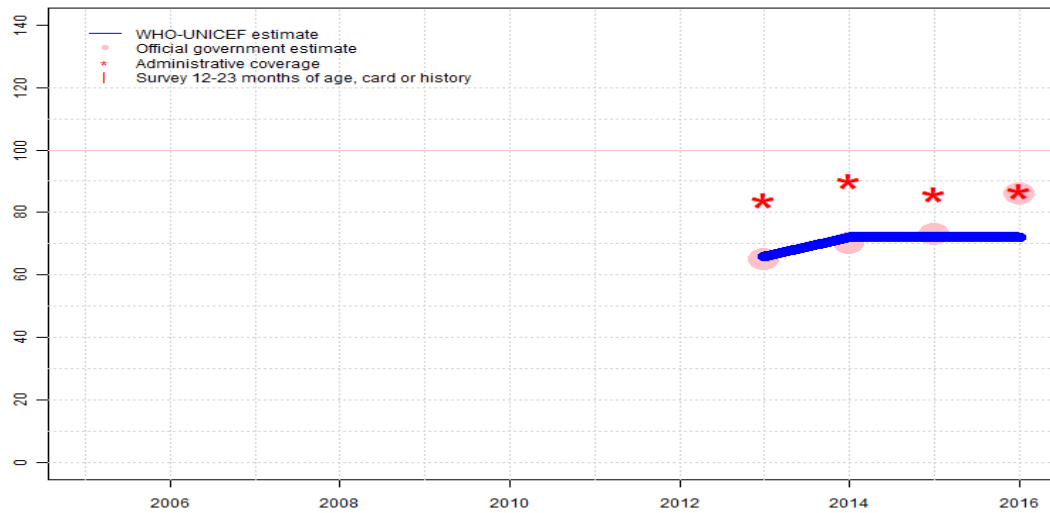
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Pakistan - PcV3

PAK - PcV3



Description:

- 2016: Estimate is based on DTP3 coverage. Estimate is likely an overestimate. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Across vaccines the reported number of children vaccinated increased from levels reported in 2015 but either remain below the reported levels for 2014 or reported coverage levels remain unchanged. Estimate challenged by: D-R-
- 2015: Estimate is based on DTP3 coverage. Estimate is likely an overestimate. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Estimate challenged by: D-R-
- 2014: Estimate is based on DTP3 coverage. Estimate is likely an overestimate. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. Reported target population increase from 2013 to 2014, which was larger than any prior year-to-year change, is also unexplained while the number of children vaccinated remained largely unchanged from 2013 to 2014. Estimate challenged by: D-R-
- 2013: Pneumococcal conjugate vaccine introduced during October 2012, reporting started in 2013. Eighty-four percent annualized coverage attained among 78 percent of the national birth cohort. Estimate is based on DTP3 coverage. Estimate is likely an overestimate. Reported data excluded. Adjustments used to derive official government estimates are inconsistent with trends in the reported number of vaccinated children. The Pakistan Social and Living Standards Measurement Survey report does not include the sample size (number of children aged 12-23 m) from which coverage is estimated. Report also does not include prevalence of home-based record ownership. In addition, the report suggests exceptionally low drop-out for multi-dose vaccines. 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 | 66 | 72 | 72 | 72 |
| Estimate GoC | NA | NA | NA | NA | NA | NA | NA | NA | • | • | • | • |
| Official | NA | NA | NA | NA | NA | NA | NA | NA | 65 | 70 | 73 | 86 |
| Administrative | NA | NA | NA | NA | NA | NA | NA | NA | 84 | 90 | 86 | 87 |
| 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.

Pakistan - survey details

2013 Pakistan Social and Living Standards Measurement Survey (PSLM), 2014-15

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | Card | 65 | 12-23 m | - | - |
| BCG | Card or History | 89 | 12-23 m | - | - |
| DTP1 | Card | 65 | 12-23 m | - | - |
| DTP1 | Card or History | 89 | 12-23 m | - | - |
| DTP3 | Card | 65 | 12-23 m | - | - |
| DTP3 | Card or History | 88 | 12-23 m | - | - |
| HepB1 | Card | 65 | 12-23 m | - | - |
| HepB1 | Card or History | 89 | 12-23 m | - | - |
| HepB3 | Card | 65 | 12-23 m | - | - |
| HepB3 | Card or History | 88 | 12-23 m | - | - |
| Hib1 | Card | 65 | 12-23 m | - | - |
| Hib1 | Card or History | 89 | 12-23 m | - | - |
| Hib3 | Card | 65 | 12-23 m | - | - |
| Hib3 | Card or History | 88 | 12-23 m | - | - |
| MCV1 | Card | 61 | 12-23 m | - | - |
| MCV1 | Card or History | 83 | 12-23 m | - | - |
| Pol1 | Card | 65 | 12-23 m | - | - |
| Pol1 | Card or History | 98 | 12-23 m | - | - |
| Pol3 | Card | 65 | 12-23 m | - | - |
| Pol3 | Card or History | 97 | 12-23 m | - | - |

2012 Pakistan Demographic and Health Survey 2012-2013

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 83 | 12-23 m | 2074 | 36 |
| BCG | Card | 36 | 12-23 m | 748 | 36 |
| BCG | Card or History | 85 | 12-23 m | 2074 | 36 |
| BCG | History | 49 | 12-23 m | 1327 | 36 |
| DTP1 | C or H <12 months | 77 | 12-23 m | 2074 | 36 |
| DTP1 | Card | 35 | 12-23 m | 748 | 36 |
| DTP1 | Card or History | 79 | 12-23 m | 2074 | 36 |
| DTP1 | History | 44 | 12-23 m | 1327 | 36 |
| DTP3 | C or H <12 months | 62 | 12-23 m | 2074 | 36 |
| DTP3 | Card | 32 | 12-23 m | 748 | 36 |

| | | | | | |
|------|-------------------|----|---------|------|----|
| DTP3 | Card or History | 65 | 12-23 m | 2074 | 36 |
| DTP3 | History | 33 | 12-23 m | 1327 | 36 |
| MCV1 | C or H <12 months | 50 | 12-23 m | 2074 | 36 |
| MCV1 | Card | 29 | 12-23 m | 748 | 36 |
| MCV1 | Card or History | 61 | 12-23 m | 2074 | 36 |
| MCV1 | History | 33 | 12-23 m | 1327 | 36 |
| Pol1 | C or H <12 months | 90 | 12-23 m | 2074 | 36 |
| Pol1 | Card | 35 | 12-23 m | 748 | 36 |
| Pol1 | Card or History | 92 | 12-23 m | 2074 | 36 |
| Pol1 | History | 57 | 12-23 m | 1327 | 36 |
| Pol3 | C or H <12 months | 82 | 12-23 m | 2074 | 36 |
| Pol3 | Card | 33 | 12-23 m | 748 | 36 |
| Pol3 | Card or History | 85 | 12-23 m | 2074 | 36 |
| Pol3 | History | 52 | 12-23 m | 1327 | 36 |

2012 Pakistan Social and Living Standards Measurement Survey (PSLM), 2013-14

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | Card | 62 | 12-23 m | - | - |
| BCG | Card or History | 82 | 12-23 m | - | - |
| DTP1 | Card | 62 | 12-23 m | - | - |
| DTP1 | Card or History | 81 | 12-23 m | - | - |
| DTP3 | Card | 61 | 12-23 m | - | - |
| DTP3 | Card or History | 78 | 12-23 m | - | - |
| HepB1 | Card | 62 | 12-23 m | - | - |
| HepB1 | Card or History | 81 | 12-23 m | - | - |
| HepB3 | Card | 61 | 12-23 m | - | - |
| HepB3 | Card or History | 78 | 12-23 m | - | - |
| Hib1 | Card | 62 | 12-23 m | - | - |
| Hib1 | Card or History | 81 | 12-23 m | - | - |
| Hib3 | Card or History | 78 | 12-23 m | - | - |
| Hib3 | Card | 61 | 12-23 m | - | - |
| MCV1 | Card | 59 | 12-23 m | - | - |
| MCV1 | Card or History | 77 | 12-23 m | - | - |
| Pol1 | Card | 62 | 12-23 m | - | - |
| Pol1 | Card or History | 98 | 12-23 m | - | - |
| Pol3 | Card | 62 | 12-23 m | - | - |
| Pol3 | Card or History | 96 | 12-23 m | - | - |

Pakistan - survey details

2010 National Nutrition Survey Pakistan 2011

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | Card | 32 | 6-49 m | - | - |
| BCG | History | 87 | 6-49 m | - | - |
| DTP3 | Card | 90 | 6-49 m | - | - |
| DTP3 | Card Or History | 76 | 6-49 m | - | - |
| HepB3 | C or H <12 Months | 76 | 6-49 m | - | - |
| HepB3 | Card | 90 | 6-49 m | - | - |
| Hib3 | Card | 90 | 6-49 m | - | - |
| Hib3 | History | 76 | 6-49 m | - | - |
| MCV1 | Card | 23 | 6-49 m | - | - |
| MCV1 | History | 65 | 6-49 m | - | - |
| Pol3 | Card | 27 | 6-49 m | - | - |
| Pol3 | Card Or History | 95 | 6-49 m | - | - |

2010 Pakistan Social and Living Standards Measurement Survey 2010-2011

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | Card | 57 | 12-23 m | 76546 | - |
| BCG | Card or History | 88 | 12-23 m | 76546 | - |
| DTP1 | Card | 57 | 12-23 m | 76546 | - |
| DTP1 | Card or History | 88 | 12-23 m | 76546 | - |
| DTP3 | Card | 56 | 12-23 m | 76546 | - |
| DTP3 | Card or History | 85 | 12-23 m | 76546 | - |
| MCV1 | Card | 53 | 12-23 m | 76546 | - |
| MCV1 | Card or History | 82 | 12-23 m | 76546 | - |
| Pol1 | Card | 54 | 12-23 m | 76546 | - |
| Pol1 | Card or History | 81 | 12-23 m | 76546 | - |
| Pol3 | Card | 53 | 12-23 m | 76546 | - |
| Pol3 | Card or History | 79 | 12-23 m | 76546 | - |

2007 Pakistan Social and Living Standards Measurement Survey 2008-2009

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | Card | 52 | 12-23 m | 75188 | - |
| BCG | Card or History | 87 | 12-23 m | 75188 | - |
| DTP1 | Card | 52 | 12-23 m | 75188 | - |
| DTP1 | Card or History | 87 | 12-23 m | 75188 | - |
| DTP3 | Card | 51 | 12-23 m | 75188 | - |
| DTP3 | Card or History | 84 | 12-23 m | 75188 | - |
| MCV1 | Card | 51 | 12-23 m | 75188 | - |
| MCV1 | Card or History | 79 | 12-23 m | 75188 | - |
| Pol1 | Card | 51 | 12-23 m | 75188 | - |
| Pol1 | Card or History | 83 | 12-23 m | 75188 | - |
| Pol3 | Card | 50 | 12-23 m | 75188 | - |
| Pol3 | Card or History | 81 | 12-23 m | 75188 | - |

2006 Pakistan Social and Living Standards Measurement Survey 2007-2008

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | Card | 82 | 12-23 m | - | - |
| DTP1 | Card | 83 | 12-23 m | - | - |
| DTP3 | Card | 79 | 12-23 m | - | - |
| MCV1 | Card | 76 | 12-23 m | - | - |
| Pol1 | Card | 95 | 12-23 m | - | - |
| Pol3 | Card | 93 | 12-23 m | - | - |

2005 Pakistan Demographic and Health Survey 2006-07

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 78 | 12-23 m | 1522 | 24 |
| BCG | Card | 24 | 12-23 m | 1522 | 24 |
| BCG | Card or History | 80 | 12-23 m | 1522 | 24 |
| BCG | History | 57 | 12-23 m | 1522 | 24 |
| DTP1 | C or H <12 months | 72 | 12-23 m | 1522 | 24 |
| DTP1 | Card | 23 | 12-23 m | 1522 | 24 |
| DTP1 | Card or History | 75 | 12-23 m | 1522 | 24 |
| DTP1 | History | 52 | 12-23 m | 1522 | 24 |
| DTP3 | C or H <12 months | 56 | 12-23 m | 1522 | 24 |
| DTP3 | Card | 21 | 12-23 m | 1522 | 24 |

Pakistan - survey details

| | | | | | |
|-------|-------------------|----|---------|------|----|
| DTP3 | Card or History | 58 | 12-23 m | 1522 | 24 |
| DTP3 | History | 38 | 12-23 m | 1522 | 24 |
| HepB1 | C or H <12 months | 68 | 12-23 m | 1522 | 24 |
| HepB1 | Card | 23 | 12-23 m | 1522 | 24 |
| HepB1 | Card or History | 71 | 12-23 m | 1522 | 24 |
| HepB1 | History | 48 | 12-23 m | 1522 | 24 |
| HepB3 | C or H <12 months | 54 | 12-23 m | 1522 | 24 |
| HepB3 | Card | 21 | 12-23 m | 1522 | 24 |
| HepB3 | Card or History | 57 | 12-23 m | 1522 | 24 |
| HepB3 | History | 36 | 12-23 m | 1522 | 24 |
| MCV1 | C or H <12 months | 50 | 12-23 m | 1522 | 24 |
| MCV1 | Card | 19 | 12-23 m | 1522 | 24 |
| MCV1 | Card or History | 60 | 12-23 m | 1522 | 24 |
| MCV1 | History | 41 | 12-23 m | 1522 | 24 |
| Pol1 | C or H <12 months | 89 | 12-23 m | 1522 | 24 |
| Pol1 | Card | 23 | 12-23 m | 1522 | 24 |
| Pol1 | Card or History | 93 | 12-23 m | 1522 | 24 |
| Pol1 | History | 70 | 12-23 m | 1522 | 24 |
| Pol3 | C or H <12 months | 79 | 12-23 m | 1522 | 24 |
| Pol3 | Card | 21 | 12-23 m | 1522 | 24 |
| Pol3 | Card or History | 83 | 12-23 m | 1522 | 24 |
| Pol3 | History | 62 | 12-23 m | 1522 | 24 |

2004 EPI Coverage Evaluation Survey, Draft Report, Pakistan 2006

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | Card | 10 | 12-23 m | 72280 | 11 |
| BCG | Card or History | 78 | 12-23 m | 72280 | 11 |
| BCG | History | 68 | 12-23 m | 72280 | 11 |
| DTP1 | Card | 10 | 12-23 m | 72280 | 11 |
| DTP1 | Card or History | 75 | 12-23 m | 72280 | 11 |
| DTP1 | History | 64 | 12-23 m | 72280 | 11 |
| DTP3 | Card | 9 | 12-23 m | 72280 | 11 |
| DTP3 | Card or History | 64 | 12-23 m | 72280 | 11 |
| DTP3 | History | 55 | 12-23 m | 72280 | 11 |
| HepB1 | Card | 10 | 12-23 m | 72280 | 11 |
| HepB1 | Card or History | 69 | 12-23 m | 72280 | 11 |
| HepB1 | History | 59 | 12-23 m | 72280 | 11 |
| HepB3 | Card | 9 | 12-23 m | 72280 | 11 |

| | | | | | |
|-------|-----------------|----|---------|-------|----|
| HepB3 | Card or History | 61 | 12-23 m | 72280 | 11 |
| HepB3 | History | 52 | 12-23 m | 72280 | 11 |
| MCV1 | Card | 9 | 12-23 m | 72280 | 11 |
| MCV1 | Card or History | 63 | 12-23 m | 72280 | 11 |
| MCV1 | History | 54 | 12-23 m | 72280 | 11 |
| Pol1 | Card | 10 | 12-23 m | 72280 | 11 |
| Pol1 | Card or History | 74 | 12-23 m | 72280 | 11 |
| Pol1 | History | 64 | 12-23 m | 72280 | 11 |
| Pol3 | Card | 9 | 12-23 m | 72280 | 11 |
| Pol3 | Card or History | 64 | 12-23 m | 72280 | 11 |
| Pol3 | History | 55 | 12-23 m | 72280 | 11 |

2003 Pakistan Social and Living Standards Measurement Survey 2004-2005

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | C or H <12 months | 82 | 12-23 m | - | - |
| BCG | Card | 51 | 12-23 m | - | - |
| DTP1 | C or H <12 months | 82 | 12-23 m | - | - |
| DTP1 | Card | 51 | 12-23 m | - | - |
| DTP3 | C or H <12 months | 80 | 12-23 m | - | - |
| DTP3 | Card | 50 | 12-23 m | - | - |
| MCV1 | C or H <12 months | 78 | 12-23 m | - | - |
| MCV1 | Card | 49 | 12-23 m | - | - |
| Pol1 | C or H <12 months | 82 | 12-23 m | - | - |
| Pol1 | Card | 51 | 12-23 m | - | - |
| Pol3 | C or H <12 months | 81 | 12-23 m | - | - |
| Pol3 | Card | 50 | 12-23 m | - | - |

2000 Pakistan Integrated Household Survey, 2002

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | Card | 34 | 12-23 m | - | - |
| BCG | Card or History | 67 | 12-23 m | - | - |
| DTP1 | Card | 36 | 12-23 m | - | - |
| DTP1 | Card or History | 71 | 12-23 m | - | - |
| DTP3 | Card | 33 | 12-23 m | - | - |
| DTP3 | Card or History | 63 | 12-23 m | - | - |

Pakistan - survey details

| | | | | | |
|------|-----------------|----|---------|---|---|
| MCV1 | Card | 30 | 12-23 m | - | - |
| MCV1 | Card or History | 57 | 12-23 m | - | - |
| Pol1 | Card | 34 | 12-23 m | - | - |
| Pol1 | Card or History | 68 | 12-23 m | - | - |
| Pol3 | Card | 36 | 12-23 m | - | - |
| Pol3 | Card or History | 89 | 12-23 m | - | - |

1998 Assessment of Immunization Coverage, Pakistan February - April 1999

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | Card or Scar | 72 | 12-23 m | 3664 | 37 |
| MCV1 | Card or History | 54 | 12-23 m | 3664 | 37 |
| Pol3 | Card or History | 58 | 12-23 m | 3664 | 37 |

| Vaccine | Confirmation method | Coverage | Age cohort | Sample | Cards seen |
|---------|---------------------|----------|------------|--------|------------|
| BCG | Card | 39 | 12-23 m | - | - |
| BCG | Card or History | 65 | 12-23 m | - | - |
| DTP1 | Card | 41 | 12-23 m | - | - |
| DTP1 | Card or History | 67 | 12-23 m | - | - |
| DTP3 | Card | 37 | 12-23 m | - | - |
| DTP3 | Card or History | 58 | 12-23 m | - | - |
| MCV1 | Card | 36 | 12-23 m | - | - |
| MCV1 | Card or History | 55 | 12-23 m | - | - |
| Pol1 | Card | 42 | 12-23 m | - | - |
| Pol1 | Card or History | 77 | 12-23 m | - | - |
| Pol3 | Card | 39 | 12-23 m | - | - |
| Pol3 | Card or History | 70 | 12-23 m | - | - |

1997 Pakistan Integrated Household Survey, 2002

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