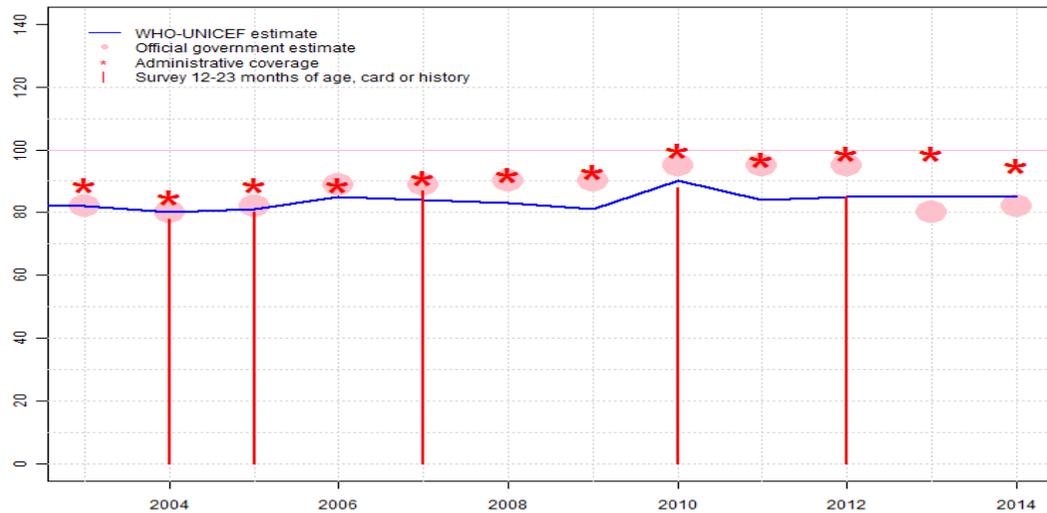


Pakistan - BCG

PAK - BCG



| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 82 | 80 | 81 | 85 | 84 | 83 | 81 | 90 | 84 | 85 | 85 | 85 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 82 | 80 | 82 | 89 | 89 | 90 | 90 | 95 | 95 | 95 | 80 | 82 |
| Administrative | 89 | 85 | 89 | 89 | 91 | 92 | 93 | 100 | 97 | 99 | 99 | 95 |
| Survey | NA | 78 | 80 | NA | 87 | NA | NA | 88 | NA | 85 | 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: 2012 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:

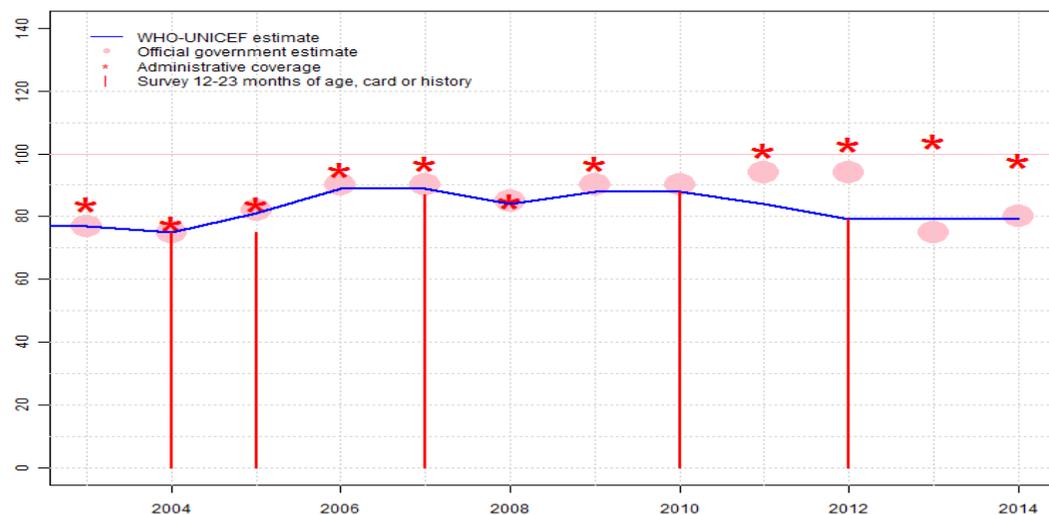
- 2003: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 78 percent based on 1 survey(s). Estimate challenged by: D-S-
- 2005: Reported data calibrated to 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-S-
- 2006: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 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-S-
- 2008: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 2009: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 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-S-
- 2011: Reported data calibrated to 2004 and 2012 levels. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-S-
- 2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 85 percent based on 1 survey(s). Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-S-
- 2013: Reported data calibrated to 2012 levels. Adjusted value used for official coverage is unexplained. Estimate challenged by: D-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjusted value used for official coverage is unexplained. Reported target population increase from 2013 to 2014, which was larger than any prior year-to-

Pakistan - BCG

year change, is also unexplained while the number of children vaccinated remained largely unchanged from 2013 to 2014. Reported data excluded. Change in reported coverage from 99 level to 82 percent. Estimate challenged by: D-

Pakistan - DTP1

PAK - DTP1



| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 77 | 75 | 81 | 89 | 89 | 84 | 88 | 88 | 84 | 79 | 79 | 79 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 77 | 75 | 82 | 90 | 90 | 85 | 90 | 90 | 94 | 94 | 75 | 80 |
| Administrative | 84 | 78 | 84 | 95 | 97 | 85 | 97 | NA | 101 | 103 | 104 | 98 |
| Survey | NA | 75 | 75 | NA | 87 | NA | NA | 88 | NA | 79 | 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: 2012 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:

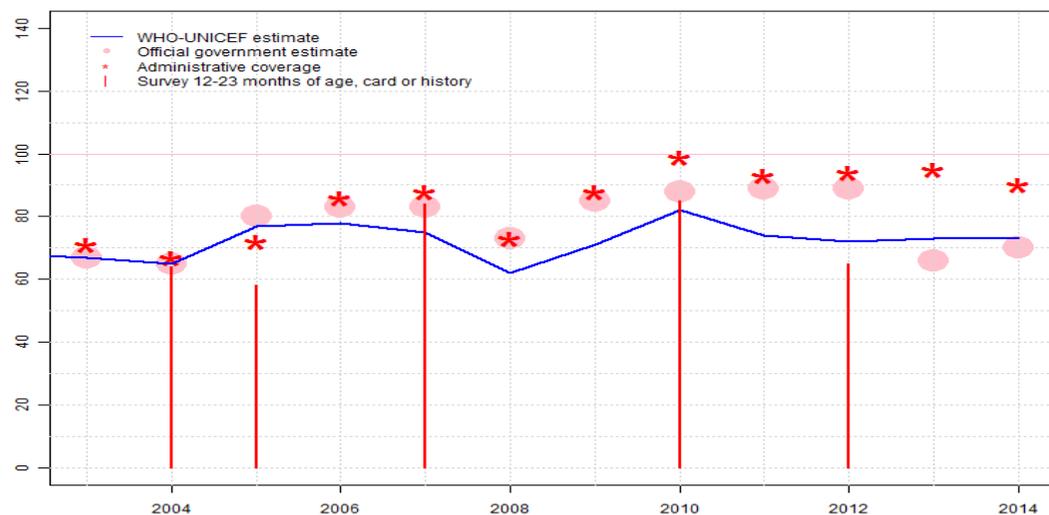
- 2003: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 75 percent based on 1 survey(s). Estimate challenged by: D-S-
- 2005: Reported data calibrated to 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-S-
- 2006: Reported data calibrated to 2004 and 2010 levels. Estimate challenged by: D-S-
- 2007: Reported data calibrated to 2004 and 2010 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-S-
- 2008: Reported data calibrated to 2004 and 2010 levels. Estimate challenged by: D-S-
- 2009: Reported data calibrated to 2004 and 2010 levels. Estimate challenged by: D-S-
- 2010: 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. Estimate challenged by: S-
- 2011: Reported data calibrated to 2010 and 2012 levels. Reported data excluded. 101 percent greater than 100 percent. Methodology for adjusted national estimates unclear. Estimate challenged by: D-S-
- 2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 79 percent based on 1 survey(s). Reported data excluded. 103 percent greater than 100 percent. Methodology for adjusted national estimates unclear. Estimate challenged by: D-R-S-
- 2013: Reported data calibrated to 2012 levels. Reported data excluded. 104 percent greater than 100 percent. Adjusted value used for official coverage is unexplained. Estimate challenged by: D-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjusted value used for official coverage is unexplained. 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

Pakistan - DTP1

remained largely unchanged from 2013 to 2014. Reported data excluded.
Change in reported coverage from 104 level to 80 percent. Estimate challenged by: D-

Pakistan - DTP3

PAK - DTP3



| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 67 | 65 | 77 | 78 | 75 | 62 | 71 | 82 | 74 | 72 | 73 | 73 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 67 | 65 | 80 | 83 | 83 | 73 | 85 | 88 | 89 | 89 | 66 | 70 |
| Administrative | 71 | 67 | 72 | 86 | 88 | 73 | 88 | 99 | 93 | 94 | 95 | 90 |
| Survey | NA | 64 | 58 | NA | 84 | NA | NA | 85 | NA | 65 | 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: 2012 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:

- 2003: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 68 percent based on 1 survey(s). EPI Coverage Evaluation Survey, Draft Report, Pakistan 2006 card or history results of 64 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 10 percent and 3d dose card only coverage of 9 percent. Estimate challenged by: D-S-
- 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-S-
- 2006: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 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-S-
- 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-S-
- 2009: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 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

Pakistan - DTP3

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-S-

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

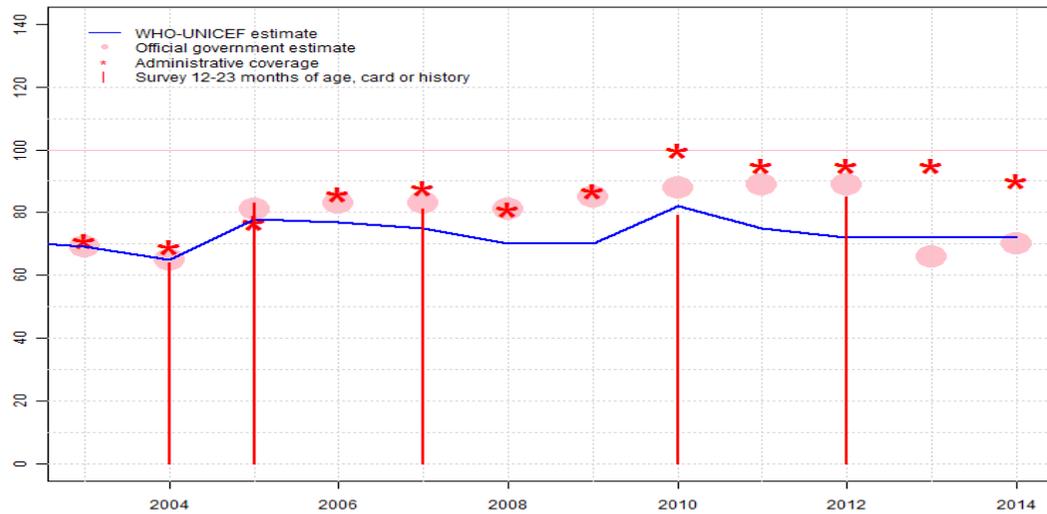
2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 72 percent based on 1 survey(s). Pakistan Demographic and Health Survey 2012-2013 card or history results of 65 percent modified for recall bias to 72 percent based on 1st dose card or history coverage of 79 percent, 1st dose card only coverage of 35 percent and 3d dose card only coverage of 32 percent. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-S-

2013: Reported data calibrated to 2012 levels. Adjusted value used for official coverage is unexplained. Estimate of 73 percent changed from previous revision value of 72 percent. Estimate challenged by: D-

2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjusted value used for official coverage is unexplained. 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. Reported data excluded. Change in reported coverage from 95 level to 70 percent. Estimate challenged by: D-

Pakistan - Pol3

PAK - Pol3



| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 69 | 65 | 78 | 77 | 75 | 70 | 70 | 82 | 75 | 72 | 72 | 72 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 69 | 65 | 81 | 83 | 83 | 81 | 85 | 88 | 89 | 89 | 66 | 70 |
| Administrative | 71 | 69 | 77 | 86 | 88 | 81 | 87 | 100 | 95 | 95 | 95 | 90 |
| Survey | NA | 64 | 83 | NA | 81 | NA | NA | 79 | NA | 85 | 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: 2012 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.

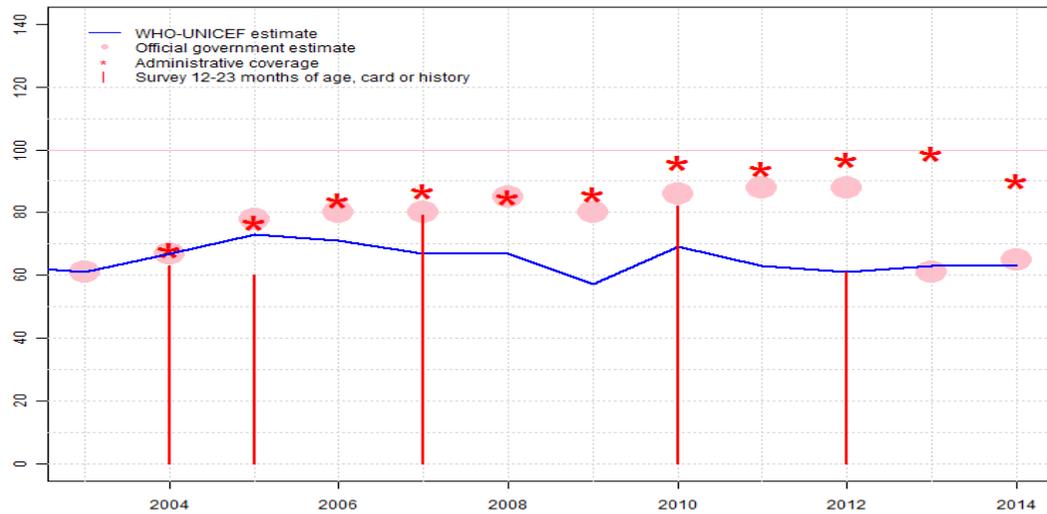
Description:

- 2003: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2004: Estimate is based on DTP3 coverage level. EPI Coverage Evaluation Survey, Draft Report, Pakistan 2006 card or history results of 64 percent modified for recall bias to 67 percent based on 1st dose card or history coverage of 74 percent, 1st dose card only coverage of 10 percent and 3d dose card only coverage of 9 percent. Estimate challenged by: D-S-
- 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-S-
- 2006: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 2006: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 2006: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 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-S-
- 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-S-
- 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-S-
- 2008: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-

- 2009: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 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-S-
- 2011: Reported data calibrated to 2004 and 2012 levels. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-S-
- 2012: Estimated is based on DTP3 coverage level. Pakistan Demographic and Health Survey 2012-2013 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. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-S-
- 2013: Reported data calibrated to 2012 levels. Adjusted value used for official coverage is unexplained. Estimate challenged by: D-S-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjusted value used for official coverage is unexplained. 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. Reported data excluded. Change in reported coverage from 95 level to 70 percent. Estimate challenged by: D-S-

Pakistan - MCV1

PAK - MCV1



| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 61 | 67 | 73 | 71 | 67 | 67 | 57 | 69 | 63 | 61 | 63 | 63 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | 61 | 67 | 78 | 80 | 80 | 85 | 80 | 86 | 88 | 88 | 61 | 65 |
| Administrative | NA | 68 | 77 | 84 | 87 | 85 | 86 | 96 | 94 | 97 | 99 | 90 |
| Survey | NA | 63 | 60 | NA | 79 | NA | NA | 82 | NA | 61 | 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: 2012 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:

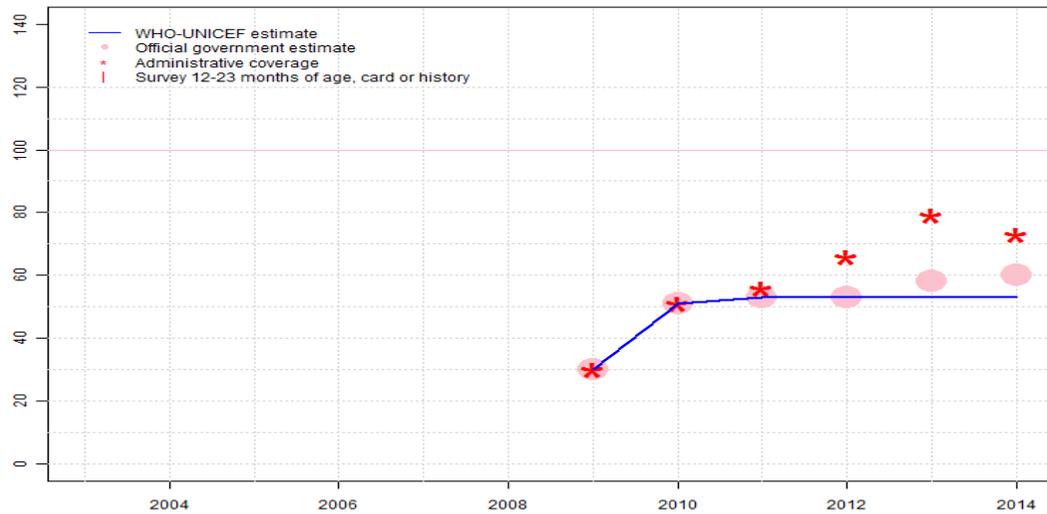
- 2003: Estimate based on coverage reported by national government. Estimate challenged by: S-
- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 63 percent based on 1 survey(s). Estimate challenged by: D-S-
- 2005: Reported data calibrated to 2004 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-S-
- 2006: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 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-S-
- 2008: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 2009: Reported data calibrated to 2004 and 2012 levels. Estimate challenged by: D-S-
- 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-S-
- 2011: Reported data calibrated to 2004 and 2012 levels. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-S-
- 2012: Survey evidence does not support reported data. Estimate based on survey results. Survey evidence of 61 percent based on 1 survey(s). Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-S-
- 2013: Reported data calibrated to 2012 levels. Adjusted value used for official coverage is unexplained. Estimate of 63 percent changed from previous revision value of 61 percent. Estimate challenged by: D-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjusted value used for official coverage is unexplained. Reported target popula-

Pakistan - MCV1

tion 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. Reported data excluded. Change in reported coverage from 99 level to 65 percent. Estimate challenged by: D-

Pakistan - MCV2

PAK - MCV2



| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA | NA | NA | NA | NA | NA | 30 | 51 | 53 | 53 | 53 | 53 |
| Estimate GoC | NA | NA | NA | NA | NA | NA | • | • | • | • | • | • |
| Official | NA | NA | NA | NA | NA | NA | 30 | 51 | 53 | 53 | 58 | 60 |
| Administrative | NA | NA | NA | NA | NA | NA | 30 | 51 | 56 | 66 | 79 | 73 |
| Survey | 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: 2012 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.

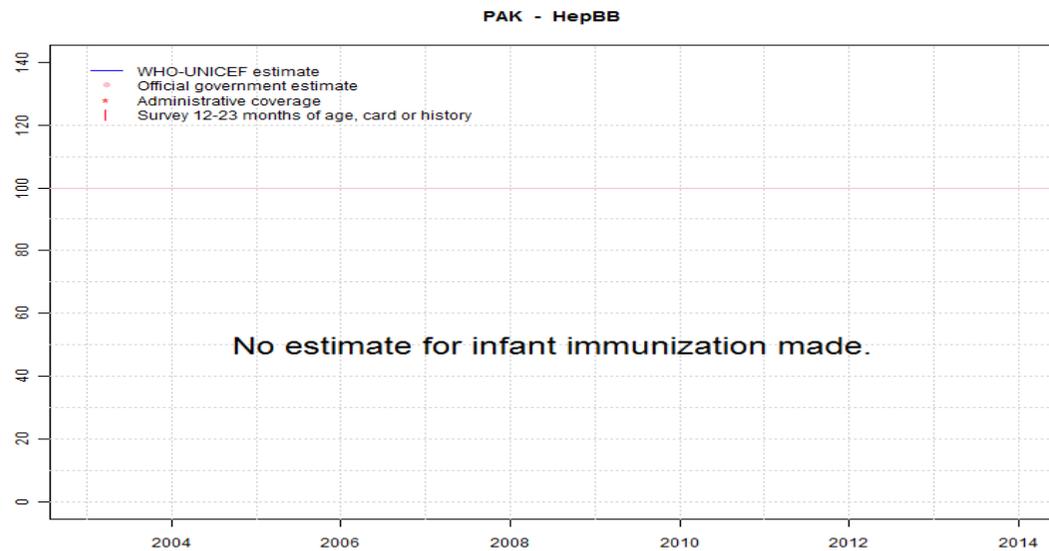
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

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

- 2009: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2010: Estimate based on reported administrative estimate. Methodology for adjusted national estimates unclear. Estimate challenged by: D-S-
- 2011: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2012: Estimate based on coverage reported by national government. Estimate challenged by: D-S-
- 2013: Estimate based on extrapolation from data reported by national government. Reported data excluded. Unexplained increase from 53 percent to 79 percent with decrease 60 percent. Adjusted value used for official coverage is unexplained. Estimate of 53 percent changed from previous revision value of 58 percent. Estimate challenged by: D-
- 2014: Estimate based on extrapolation from data reported by national government. Reported data excluded. Change in reported coverage from 79 level to 60 percent. Estimate challenged by: D-

Pakistan - HepBB



| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA |
| Estimate GoC | NA |
| Official | NA |
| Administrative | NA |
| Survey | NA |

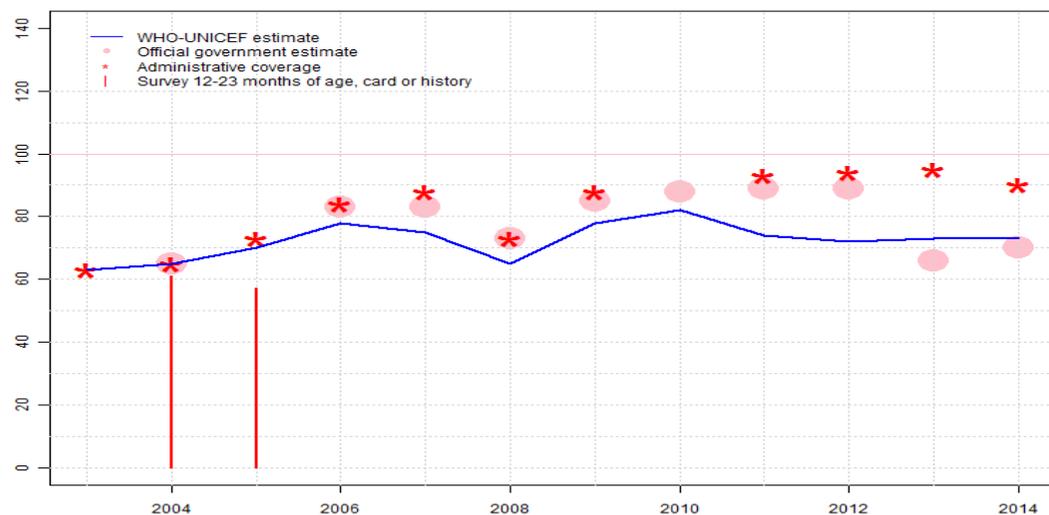
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2012 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



| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | 63 | 65 | 70 | 78 | 75 | 65 | 78 | 82 | 74 | 72 | 73 | 73 |
| Estimate GoC | • | • | • | • | • | • | • | • | • | • | • | • |
| Official | NA | 65 | NA | 83 | 83 | 73 | 85 | 88 | 89 | 89 | 66 | 70 |
| Administrative | 63 | 65 | 73 | 84 | 88 | 73 | 88 | NA | 93 | 94 | 95 | 90 |
| Survey | NA | 61 | 57 | 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: 2012 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:

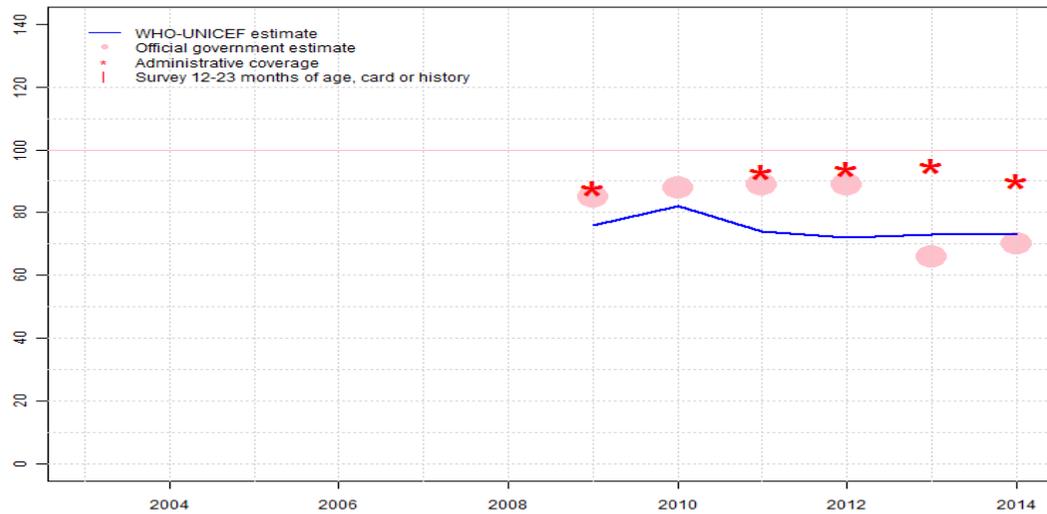
- 2003: Estimate based on reported data. HepB vaccine introduced in 2002. Reporting started in 2003. Estimate challenged by: D-S-
- 2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 62 percent based on 1 survey(s). EPI Coverage Evaluation Survey, Draft Report, Pakistan 2006 card or history results of 61 percent modified for recall bias to 62 percent based on 1st dose card or history coverage of 69 percent, 1st dose card only coverage of 10 percent and 3d dose card only coverage of 9 percent. Estimate challenged by: D-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-S-
- 2006: Reported data calibrated to 2004 and 2007 levels. Estimate challenged by: D-S-
- 2007: Estimate is based on DTP3 coverage level. DTP-HepB vaccine introduced in July 2006. Estimate challenged by: D-R-S-
- 2008: Reported data calibrated to 2007 and 2010 levels. Estimate challenged by: D-S-
- 2009: Reported data calibrated to 2007 and 2010 levels. Estimate challenged by: D-S-
- 2010: Estimate is based on DTP3 coverage level. Methodology for adjusted national estimates unclear. Estimate challenged by: S-
- 2011: Estimate is based on DTP3 coverage level. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate of 74 percent changed from previous revision value of 78 percent. Estimate challenged by: D-R-S-
- 2012: Estimate is based on DTP3 level. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-S-
- 2013: Reported data calibrated to 2012 levels. Adjusted value used for official coverage is unexplained. Estimate of 73 percent changed from previous revision value of 72 percent. Estimate challenged by: D-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjusted value used for official coverage is unexplained. 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. Reported data excluded. De-

Pakistan - HepB3

cline in reported coverage from 95 level to 70 percent. Estimate challenged
by: D-

Pakistan - Hib3

PAK - Hib3



| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA | NA | NA | NA | NA | NA | 76 | 82 | 74 | 72 | 73 | 73 |
| Estimate GoC | NA | NA | NA | NA | NA | NA | • | • | • | • | • | • |
| Official | NA | NA | NA | NA | NA | NA | 85 | 88 | 89 | 89 | 66 | 70 |
| Administrative | NA | NA | NA | NA | NA | NA | 88 | NA | 93 | 94 | 95 | 90 |
| Survey | 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.

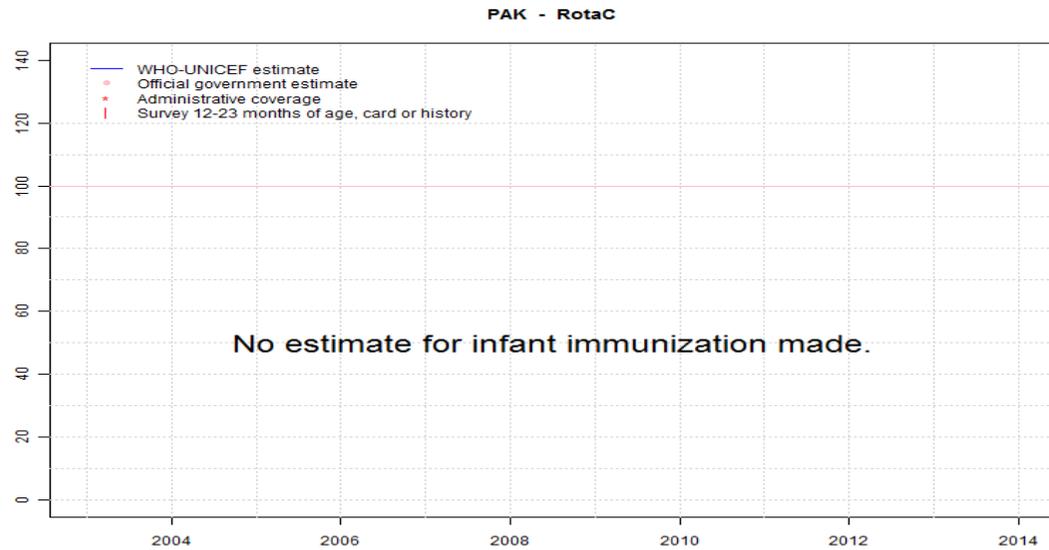
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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:

- 2009: Estimate is based on DTP3 levels. Hib vaccine introduced in 2009 Vaccine presentation is DTP-HepB-Hib. Estimate challenged by: D-R-S-
- 2010: Estimate is based on DTP3 survey results. Methodology for adjusted national estimates unclear. Estimate of 82 percent changed from previous revision value of 86 percent. Estimate challenged by: S-
- 2011: Estimate is based on DTP3 level. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate of 74 percent changed from previous revision value of 75 percent. Estimate challenged by: D-R-S-
- 2012: Estimate is based on DTP3 level. Methodology for adjusted national estimates unclear. Estimates calibrated to administrative data. Estimate challenged by: D-R-S-
- 2013: Reported data calibrated to 2012 levels. Adjusted value used for official coverage is unexplained. Estimate of 73 percent changed from previous revision value of 72 percent. Estimate challenged by: D-
- 2014: Reported data calibrated to 2012 levels. Reported data excluded. Adjusted value used for official coverage is unexplained. 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. Reported data excluded. Decline in reported coverage from 95 level to 70 percent. Estimate challenged by: D-

Pakistan - RotaC



| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA |
| Estimate GoC | NA |
| Official | NA |
| Administrative | NA |
| Survey | NA |

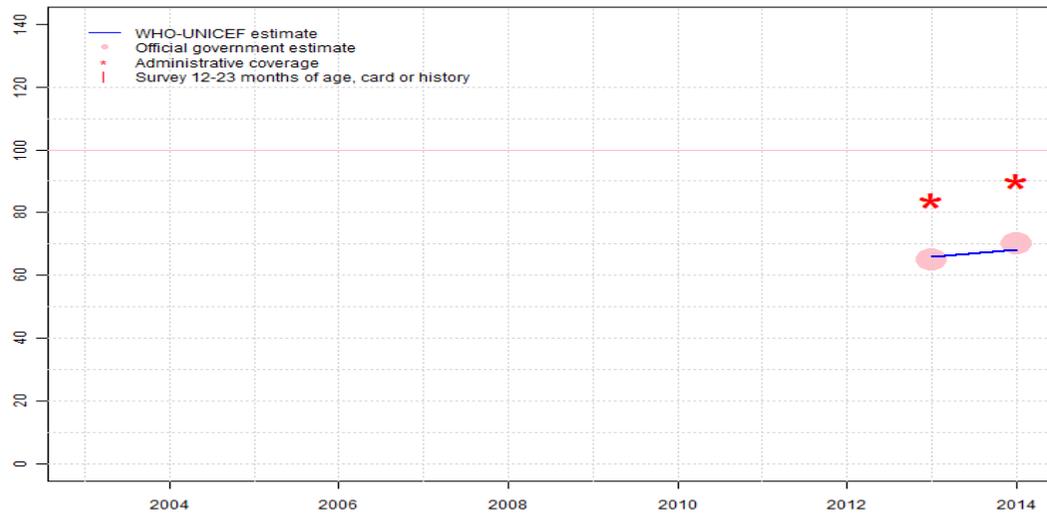
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability 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: 2012 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:

- 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. Adjusted value used for official coverage is unexplained. Estimate challenged by: D-R-
- 2014: Estimate is derived from an adjusted annualized coverage coverage among the national birth cohort based on the difference between estimate and reported data for the third dose of DTP containing vaccine. Reported coverage level of 90 percent achieved in 95 percent of the national birth cohort. Reported data excluded. Adjusted value used for official coverage is unexplained. Reported data excluded. Decline in reported coverage from 84 level to 70 percent. Estimate challenged by: D-R-

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estimate | NA | 66 | 68 |
| Estimate GoC | NA | ● | ● |
| Official | NA | 65 | 70 |
| Administrative | NA | 84 | 90 |
| Survey | 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: 2012 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

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 |

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 | - |

Pakistan - survey details

| | | | | | |
|------|-----------------|----|---------|-------|---|
| 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 |
| 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 |

Pakistan - survey details

| | | | | | |
|------|-----------------|----|---------|-------|----|
| 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 | - | - |
| 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 |

1997 Pakistan Integrated Household Survey, 2002

| 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 | - | - |

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

Pakistan

WHO/UNICEF Estimates of Protection at Birth (PAB) against tetanus

In countries where tetanus is recommended for girls and women coverage is usually reported as "TT2+", i.e. the proportion of (pregnant) women who have received their second or superior TT dose in a given year. TT2 + coverage, however, can under-represent the actual proportion of births that are protected against tetanus as it does not include women who have previously received protective doses, women who received one dose without documentation of previous doses, and women who received doses in TT (or Td) supplemental immunization activities (SIA). In addition, girls who have received DTP in their childhood and are entering childbearing age, may be protected with TT booster doses.

WHO and UNICEF have developed a model that takes into account the above scenarios, and calculates the proportion of births in a given year that can be considered as having been protected against tetanus - "Protection at Birth".

In this model, annual cohorts of women are followed from infancy through their life. A proportion receives DTP in infancy (estimated based on the WHO-UNICEF estimates of DTP3 coverage). In addition some of these women also receive TT through routine services when they are pregnant and may also receive TT during SIAs. The model also adjusts reported data, taking into account coverage patterns in other years, and/or results available through surveys. The duration of protection is then calculated, based on WHO estimates of the duration of protection by doses ever received. The proportion of births that are protected against tetanus as a result of maternal immunization reflects the tetanus immunization received by the mother throughout her life rather than simply the TT immunizations received during the current pregnancy.

The model was used in the mid to late 2000. Currently, the coverage series developed by the model is used as the baseline, and efforts are made to obtain data from all sources that include the JRF and reported trend over the years, routine PAB reporting and its trend over the years, data from surveys (DHS, MICS, EPI), whether countries have been validated for the attainment of maternal and neonatal tetanus elimination and what the TT coverage figures are from the survey etc and all the information is used to arrive at an estimate of the protection-at-birth from TT vaccination.

| Year | PAB coverage estimate (%) |
|------|---------------------------|
| 2003 | 79 |
| 2004 | 78 |
| 2005 | 78 |
| 2006 | 80 |
| 2007 | 78 |
| 2008 | 80 |
| 2009 | 84 |
| 2010 | 84 |
| 2011 | 75 |
| 2012 | 75 |
| 2013 | 75 |
| 2014 | 75 |

¹ This model is described in: Griffiths U., Wolfson L., Quddus A., Younus M., Hafiz R.. Incremental cost-effectiveness of supplementary immunization activities to prevent neo-natal tetanus in Pakistan. Bulletin of the World Health Organization 2004; 82:643-651.