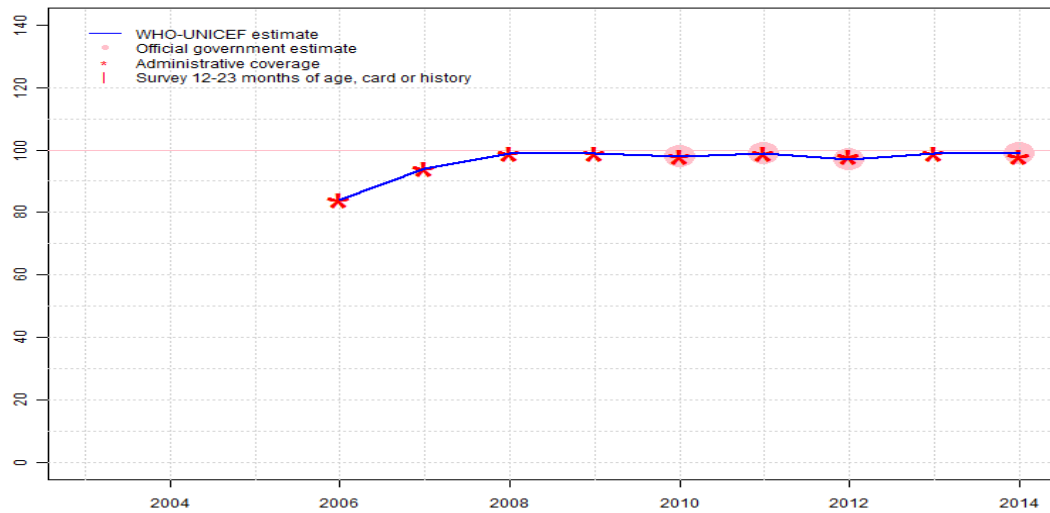


KWT - BCG



Description:

- 2006: Estimate based on reported administrative estimate. BCG schedule changed from 4-6 years to 3 months. GoC=R+
- 2007: Estimate based on reported administrative estimate. GoC=R+
- 2008: Estimate based on reported administrative estimate. GoC=R+
- 2009: Estimate based on reported administrative estimate. GoC=R+
- 2010: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on reported administrative estimate. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	84	94	99	99	98	99	97	99	99
Estimate GoC	NA	NA	NA	••	••	••	••	•	•	•	•	•
Official	NA	NA	NA	NA	NA	NA	NA	98	99	97	NA	99
Administrative	NA	NA	NA	84	94	99	99	98	99	98	99	98
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

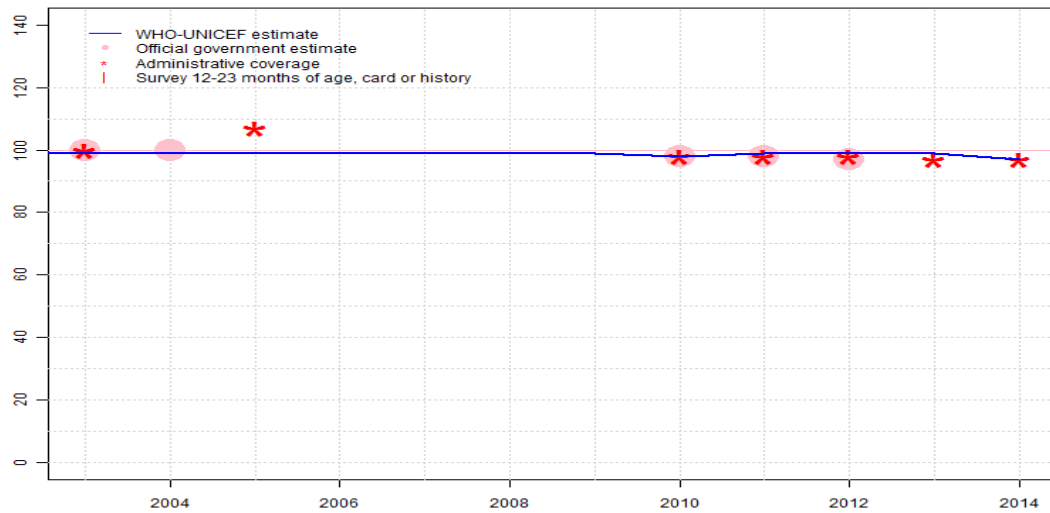
The WHO and UNICEF estimates of national immunization coverage (wuenic) are based on data and information that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe the grade of confidence (GoC) we have in these estimates. As there is no underlying probability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

Kuwait - DTP1

KWT - DTP1



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	99	99	99	99	99	99	99	98	99	99	99	97
Estimate GoC	●●	●●	●●	●	●	●	●	●●	●	●	●	●
Official	100	100	NA	NA	NA	NA	NA	98	98	97	NA	NA
Administrative	100	NA	107	NA	NA	NA	NA	98	98	98	97	97
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: 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.

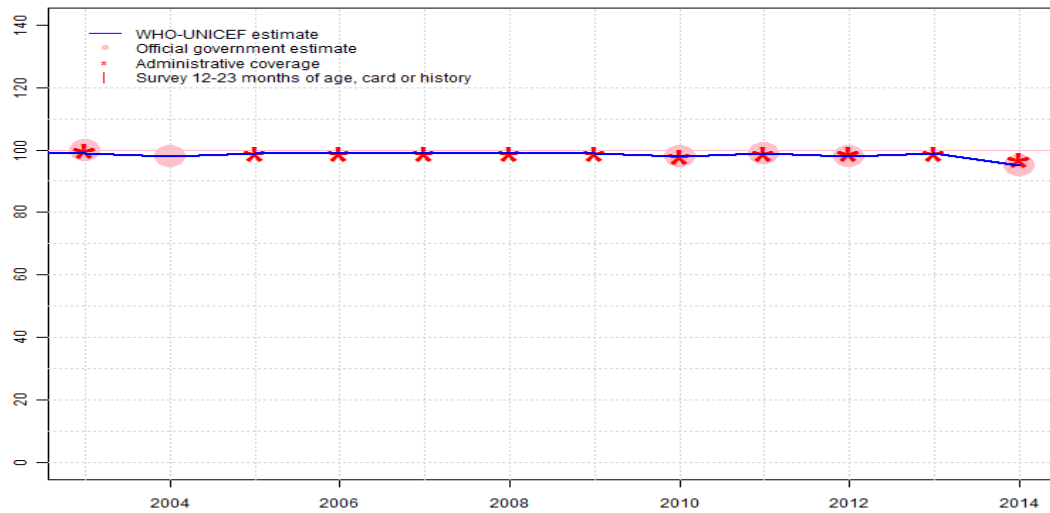
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Estimate based on coverage reported by national government. GoC=R+
- 2004: Estimate based on coverage reported by national government. GoC=R+
- 2005: Estimate based on interpolation between data reported by national government. Reported data excluded. 107 percent greater than 100 percent. GoC=D+
- 2006: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data
- 2007: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data
- 2008: Estimate based on interpolation between data reported by national government. GoC=No accepted empirical data
- 2009: DTP1 coverage estimated based on DTP3 coverage of 99. GoC=No accepted empirical data
- 2010: Estimate based on coverage reported by national government. GoC=R+D+
- 2011: DTP1 coverage estimated based on DTP3 coverage of 99. Estimate challenged by: D-R-
- 2012: DTP1 coverage estimated based on DTP3 coverage of 98. Estimate challenged by: D-R-
- 2013: DTP1 coverage estimated based on DTP3 coverage of 99. Estimate challenged by: D-R-
- 2014: Estimate based on reported administrative data. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-

Kuwait - DTP3

KWT - DTP3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	99	98	99	99	99	99	99	98	99	98	99	95
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●	●●	●	●●
Official	100	98	NA	NA	NA	NA	NA	98	99	98	NA	95
Administrative	100	NA	99	99	99	99	99	98	99	99	99	97
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: 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.

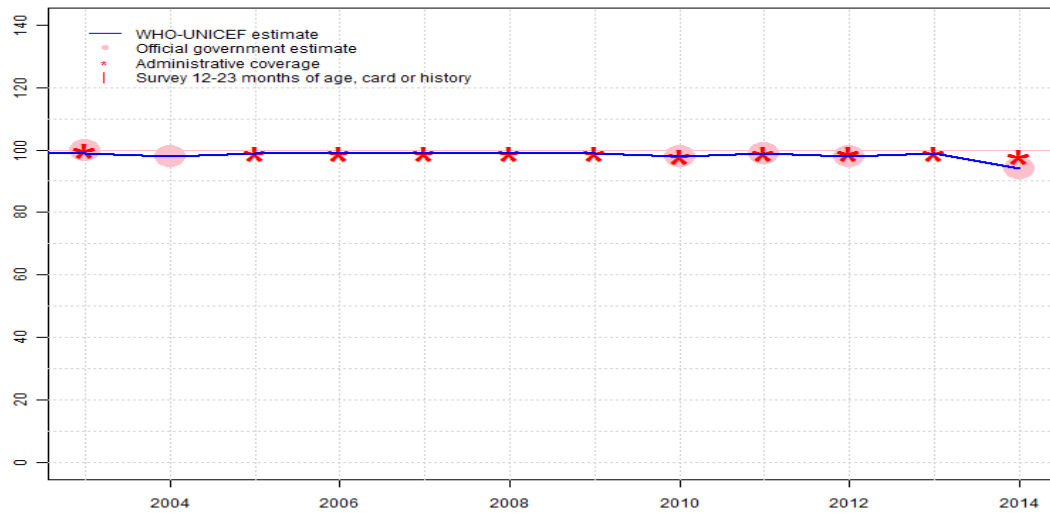
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Estimate based on coverage reported by national government. GoC=R+
- 2004: Estimate based on coverage reported by national government. GoC=R+
- 2005: Estimate based on reported administrative data. GoC=R+ D+
- 2006: Estimate based on reported administrative data. GoC=R+
- 2007: Estimate based on reported administrative data. GoC=R+
- 2008: Estimate based on reported administrative data. GoC=R+
- 2009: Estimate based on reported administrative data. GoC=R+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Estimate based on reported administrative data. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Kuwait - Pol3

KWT - Pol3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	99	98	99	99	99	99	99	98	99	98	99	94
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●	●●	●	●●
Official	100	98	NA	NA	NA	NA	NA	98	99	98	NA	94
Administrative	100	NA	99	99	99	99	99	98	99	99	99	98
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: 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.

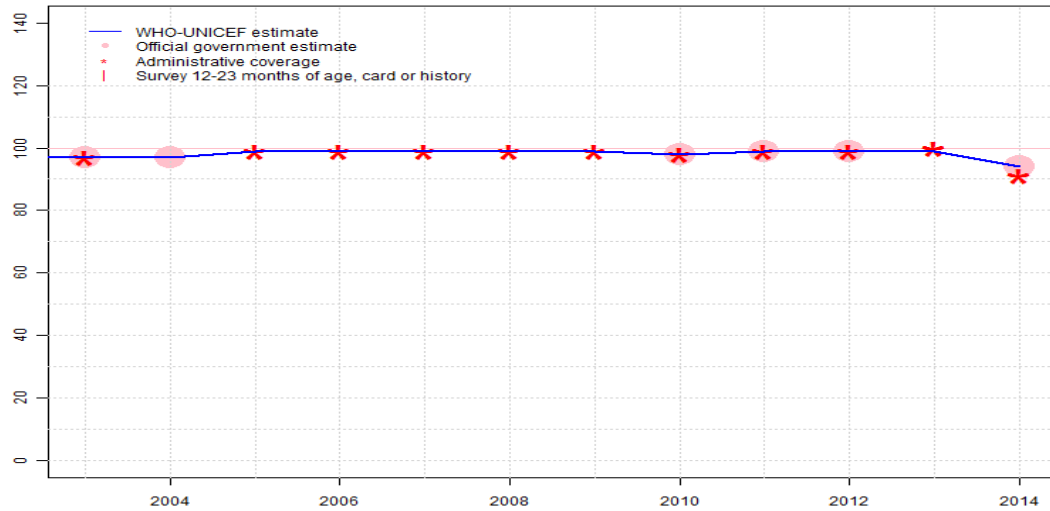
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Estimate based on coverage reported by national government. GoC=R+
- 2004: Estimate based on coverage reported by national government. GoC=R+
- 2005: Estimate based on reported administrative data. GoC=R+ D+
- 2006: Estimate based on reported administrative data. GoC=R+
- 2007: Estimate based on reported administrative data. GoC=R+
- 2008: Estimate based on reported administrative data. GoC=R+
- 2009: Estimate based on reported administrative data. GoC=R+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Estimate based on reported administrative data. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Kuwait - MCV1

KWT - MCV1



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	97	97	99	99	99	99	99	98	99	99	99	94
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●	●	●●
Official	97	97	NA	NA	NA	NA	NA	98	99	99	NA	94
Administrative	97	NA	99	99	99	99	99	98	99	99	100	91
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.

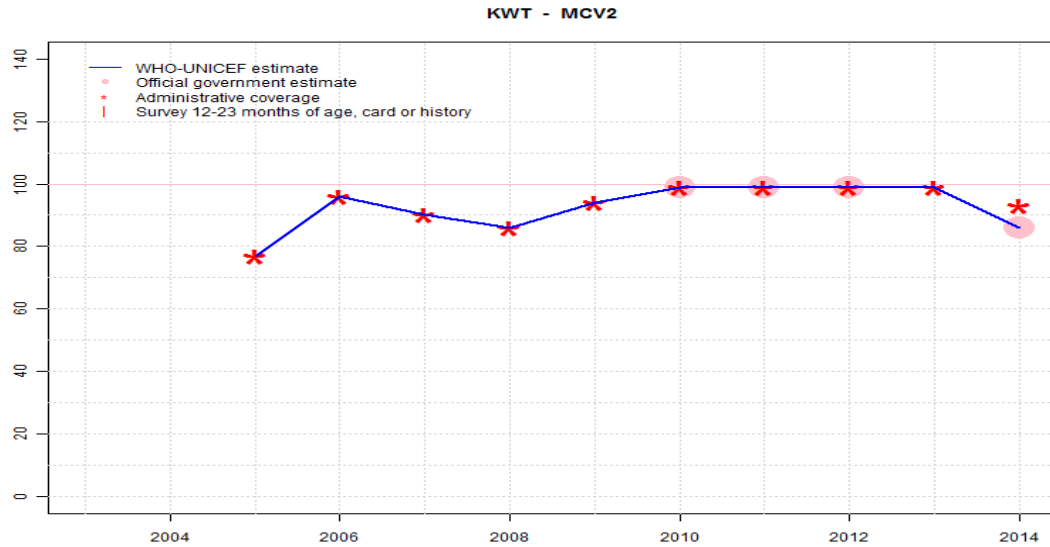
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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. GoC=R+
- 2004: Estimate based on coverage reported by national government. GoC=R+
- 2005: Estimate based on reported administrative data. GoC=R+ D+
- 2006: Estimate based on reported administrative data. GoC=R+
- 2007: Estimate based on reported administrative data. GoC=R+
- 2008: Estimate based on reported administrative data. GoC=R+
- 2009: Estimate based on reported administrative data. GoC=R+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. GoC=R+ D+
- 2012: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on reported administrative data. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Kuwait - MCV2



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	77	96	90	86	94	99	99	99	99	86
Estimate GoC	NA	NA	•	••	••	••	••	••	••	••	••	••
Official	NA	NA	NA	NA	NA	NA	NA	99	99	99	NA	86
Administrative	NA	NA	77	96	90	86	94	99	99	99	99	93
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: 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.

2005: Estimate based on reported administrative estimate. Estimate challenged by: D-

2006: Estimate based on reported administrative estimate. GoC=R+

2007: Estimate based on reported administrative estimate. GoC=R+

2008: Estimate based on reported administrative estimate. GoC=R+

2009: Estimate based on reported administrative estimate. GoC=R+

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

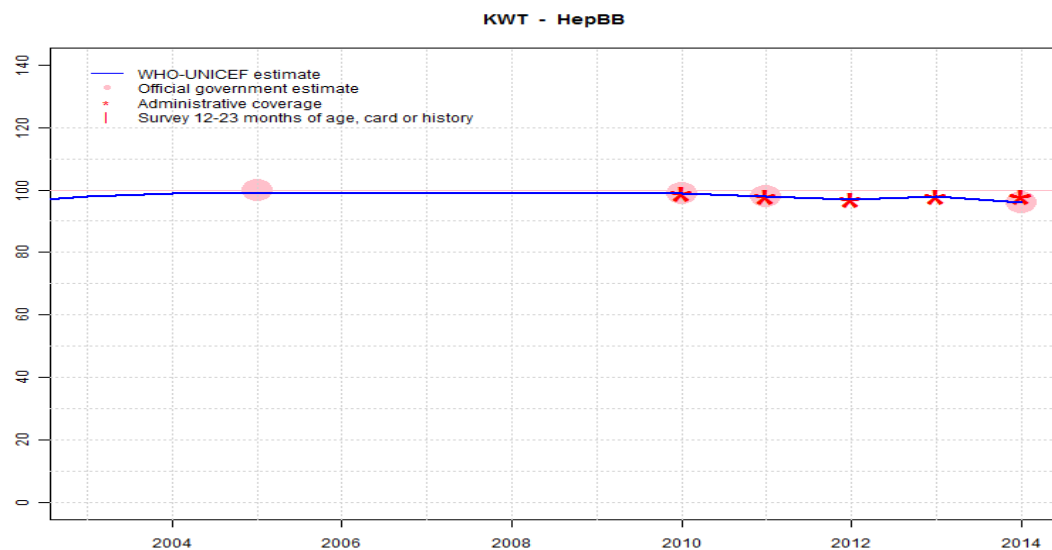
2011: Estimate based on coverage reported by national government. GoC=R+ D+

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

2013: Estimate based on reported administrative estimate. GoC=R+ D+

2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Consistency with other antigens. GoC=R+ D+

Kuwait - HepBB



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	98	99	99	99	99	99	99	99	98	97	98	96
Estimate GoC	●	●	●	●	●	●	●	●●	●	●	●	●
Official	NA	NA	100	NA	NA	NA	NA	99	98	NA	NA	96
Administrative	NA	NA	NA	NA	NA	NA	NA	99	98	97	98	98
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: 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.

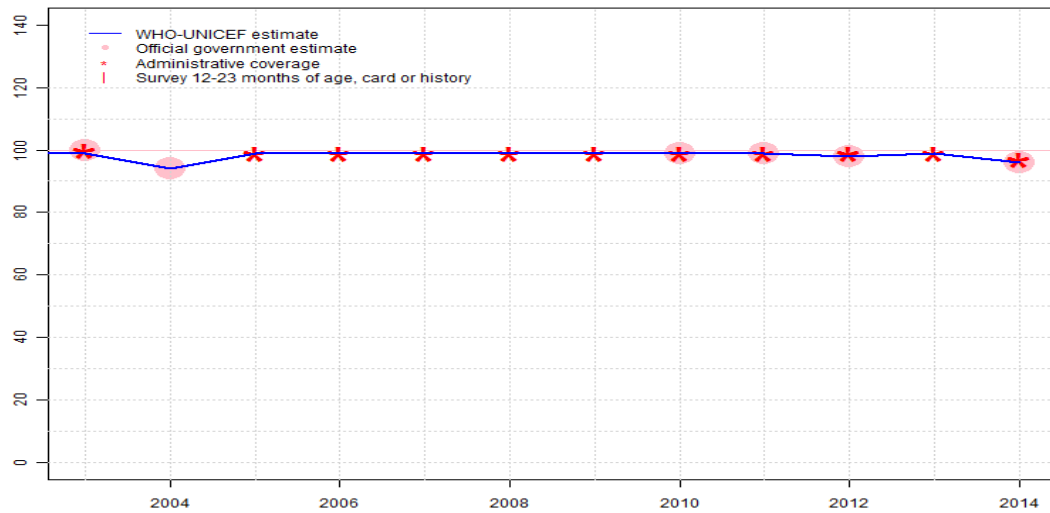
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2004: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2005: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2006: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2007: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2008: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2009: Estimate based on interpolation between reported values. GoC=No accepted empirical data
- 2010: Estimate based on coverage reported by national government. GoC=R+D+
- 2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2012: Estimate based on reported administrative estimate. Estimate challenged by: D-
- 2013: Estimate based on reported administrative estimate. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. Estimate challenged by: D-

Kuwait - HepB3

KWT - HepB3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	99	94	99	99	99	99	99	99	99	98	99	96
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●	●●	●	●●
Official	100	94	NA	NA	NA	NA	NA	99	99	98	NA	96
Administrative	100	NA	99	99	99	99	99	99	99	99	99	97
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: 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.

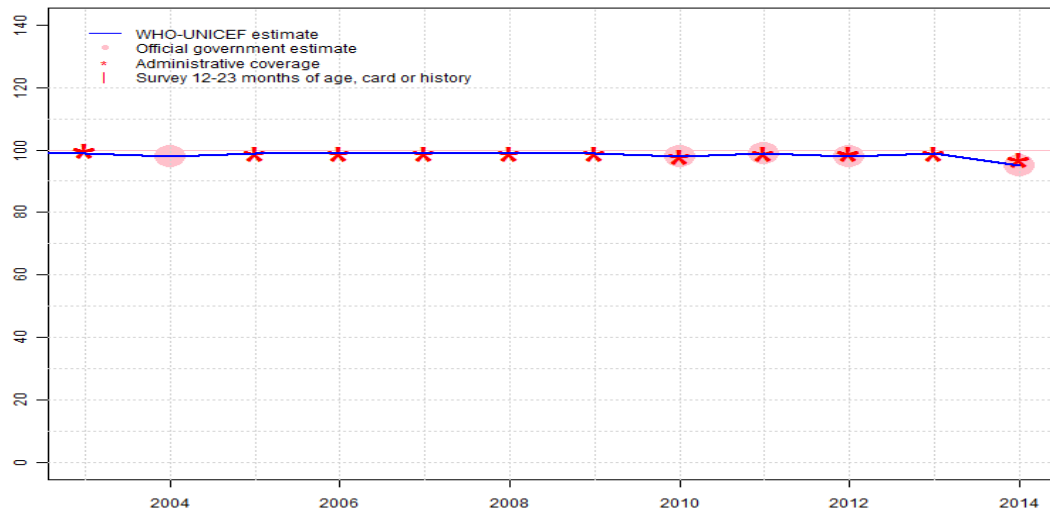
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

- 2003: Estimate based on coverage reported by national government. GoC=R+
- 2004: Estimate based on coverage reported by national government. GoC=R+
- 2005: Estimate based on reported administrative data. GoC=R+ D+
- 2006: Estimate based on reported administrative data. GoC=R+
- 2007: Estimate based on reported administrative data. GoC=R+
- 2008: Estimate based on reported administrative data. GoC=R+
- 2009: Estimate based on reported administrative data. GoC=R+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Estimate based on reported administrative data. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Kuwait - Hib3

KWT - Hib3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	99	98	99	99	99	99	99	98	99	98	99	95
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●	●●	●	●●
Official	NA	98	NA	NA	NA	NA	NA	98	99	98	NA	95
Administrative	100	NA	99	99	99	99	99	98	99	99	99	97
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.

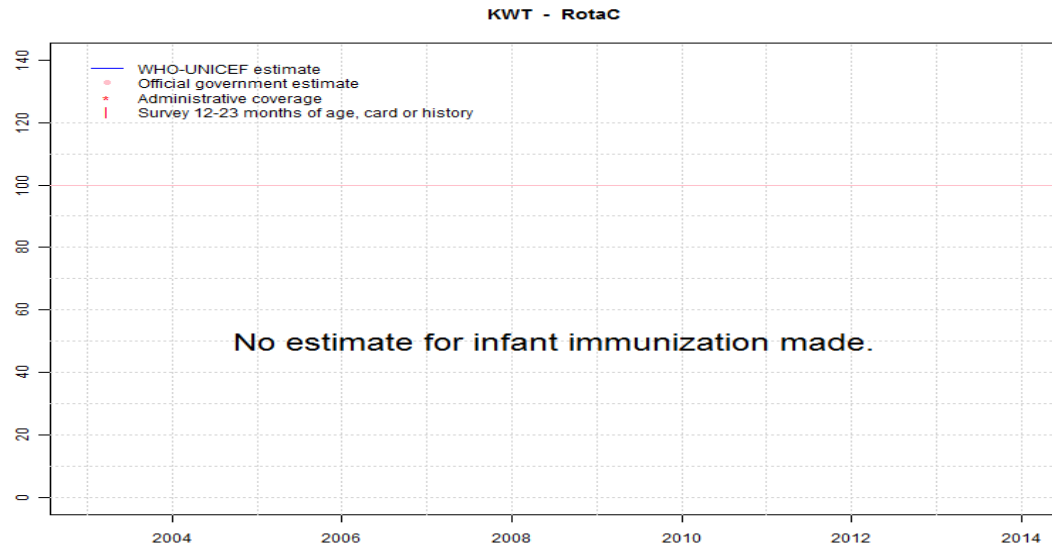
- Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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 administrative estimate. GoC=R+
- 2004: Estimate based on coverage reported by national government. GoC=R+
- 2005: Estimate based on reported administrative estimate. GoC=R+ D+
- 2006: Estimate based on reported administrative estimate. GoC=R+
- 2007: Estimate based on reported administrative estimate. GoC=R+
- 2008: Estimate based on reported administrative estimate. GoC=R+
- 2009: Estimate based on reported administrative estimate. GoC=R+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. GoC=R+ D+
- 2013: Estimate based on reported administrative estimate. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Kuwait - RotaC



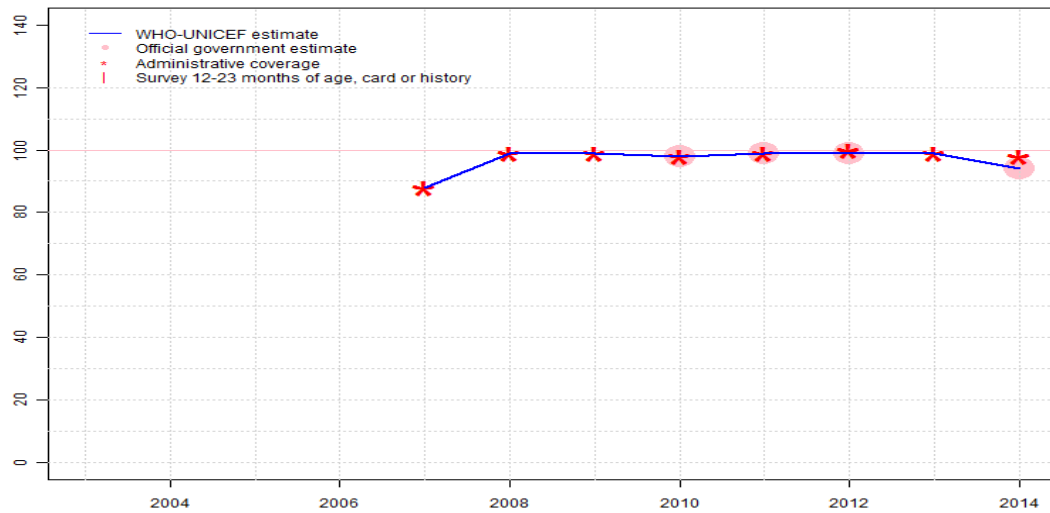
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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: 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.

KWT - PcV3



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	88	99	99	98	99	99	99	94
Estimate GoC	NA	NA	NA	NA	●●	●●	●●	●●	●	●	●	●●
Official	NA	NA	NA	NA	NA	NA	NA	98	99	99	NA	94
Administrative	NA	NA	NA	NA	88	99	99	98	99	100	99	98
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: 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:

- 2007: Estimate based on reported administrative estimate. Pneumococcal conjugate vaccine was introduced in national immunization schedule in October 2006. Reporting started in 2007. GoC=R+
- 2008: Estimate based on reported administrative estimate. GoC=R+
- 2009: Estimate based on reported administrative estimate. GoC=R+
- 2010: Estimate based on coverage reported by national government. GoC=R+ D+
- 2011: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2012: Estimate based on coverage reported by national government. Estimate challenged by: D-
- 2013: Estimate based on reported administrative estimate. Estimate challenged by: D-
- 2014: Estimate based on coverage reported by national government. No nationally representative household survey within the last 5 years. WHO and UNICEF recommend a high-quality survey to confirm reported levels of coverage. GoC=R+ D+

Kuwait - survey details

1997 Vaccine Assessment in State of Kuwait 1999, documentation
not available

DTP3	Card or History	98	12-23 m	-	73
MCV1	Card or History	96	12-23 m	-	73
Pol3	Card or History	99	12-23 m	-	73

Vaccine Confirmation method Coverage Age cohort Sample Cards seen

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

Kuwait

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	80
2004	81
2005	81
2006	82
2007	83
2008	84
2009	84
2010	95
2011	95
2012	95
2013	95
2014	95

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.
WHO and UNICEF estimates of national immunization coverage