Colombia: WHO and UNICEF estimates of immunization coverage: 2014 revision

BCG

DTP1

DTP3

Pol3

MCV1

HepB3

Hib3

RotaC

PcV3

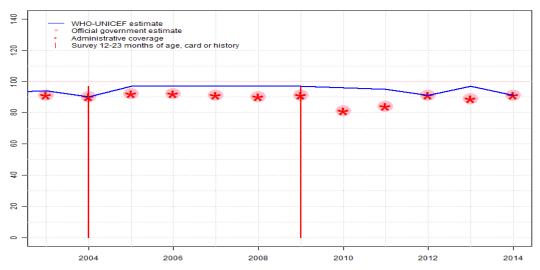WHO and UNICEF estimates of national immunization coverage - next revision available July 15, 2016
data as of July 7, 2015

Colombia - BCG

COL - BCG

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	97	92	94	96	93	93	90	84	83	89	85	89
Estimate GoC	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●	●●	●	●	●
Official	97	92	94	96	93	93	90	84	83	89	85	89
Administrative	97	92	94	96	93	93	90	84	83	89	85	89
Survey	NA	97	NA	NA	NA	NA	97	NA	NA	NA	NA	NA

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

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

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

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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.
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Description:

2003: Estimate based on coverage reported by national government. GoC=R+ S+ D+

2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). GoC=R+ S+ D+

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

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

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

2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+

2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). GoC=R+ S+ D+

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. Change in reported coverage from 2011 to 2012 partially attributable to change in denominators. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. 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-
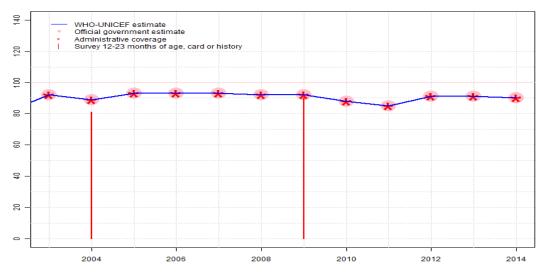
Colombia - DTP1

COL - DTP1

Legend:
- WHO-UNICEF estimate
- Official government estimate
- * Administrative coverage
- | Survey 12-23 months of age, card or history

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	94	90	97	97	97	97	97	96	95	91	97	91
Estimate GoC	●●	●●	●	●	●	●	●	●	●	●●	●	●
Official	91	90	92	92	91	90	91	81	84	91	89	91
Administrative	91	90	92	92	91	90	91	81	84	91	89	91
Survey	NA	97	NA	NA	NA	NA	97	NA	NA	NA	NA	NA

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

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

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

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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.
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Description:

2003: Reported data calibrated to 1999 and 2004 levels. GoC=S+ D+

2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 97 percent based on 1 survey(s). GoC=R+ S+

2005: DTP1 coverage estimated based on DTP3 coverage of 93. Estimate challenged by: R-

2006: DTP1 coverage estimated based on DTP3 coverage of 93. Estimate challenged by: D-R-

2007: DTP1 coverage estimated based on DTP3 coverage of 93. Estimate challenged by: D-R-

2008: DTP1 coverage estimated based on DTP3 coverage of 92. Estimate challenged by: D-R-

2009: DTP1 coverage estimated based on DTP3 coverage of 92. Estimate challenged by: D-R-

2010: DTP1 coverage estimated based on DTP3 coverage of 88. Estimate challenged by: D-R-

2011: DTP1 coverage estimated based on DTP3 coverage of 85. Estimate challenged by: D-R-

2012: Estimate based on coverage reported by national government. Change in reported coverage from 2011 to 2012 partially attributable to change in denominators. GoC=R+ D+

2013: DTP1 coverage estimated based on DTP3 coverage of 91. Estimate challenged by: D-R-

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-
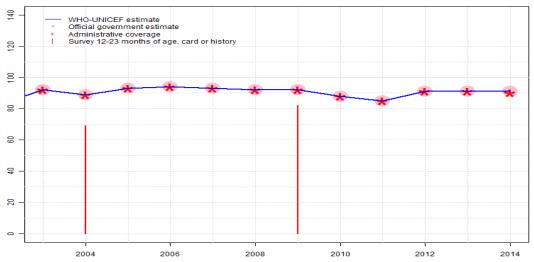
COL - DTP3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	92	89	93	93	93	92	92	88	85	91	91	90
Estimate GoC	•••	•••	•••	•••	•••	•••	•••	•••	•••	••	••	•
Official	92	89	93	93	93	92	92	88	85	91	91	90
Administrative	92	89	93	93	93	92	92	88	85	91	91	90
Survey	NA	81	NA	NA	NA	NA	90	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+ S+ D+

2004: Estimate based on coverage reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Colombia Demographic and Health Survey 2005 card or history results of 81 percent modifed for recall bias to 89 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 77 percent and 3d dose card only coverage of 71 percent. GoC=R+ S+ D+

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

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

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

2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+

2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Colombia Demographic and Health Survey 2010 card or history results of 90 percent modifed for recall bias to 92 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 82 percent and 3d dose card only coverage of 78 percent. GoC=R+ S+ D+

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

2011: Estimate based on reported administrative data. Government official report excluded due to inconsistency in adjustment to administrative data for component vaccines. GoC=R+ S+ D+

2012: Estimate based on coverage reported by national government. Change in reported coverage from 2011 to 2012 partially attributable to change in denominators. GoC=R+ D+

2013: Estimate based on coverage reported by national government. 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. Estimate challenged by: D-
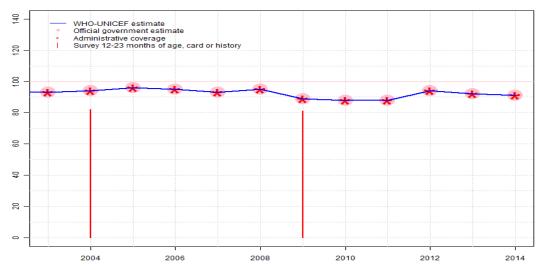
COL - Pol3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	92	89	93	94	93	92	92	88	85	91	91	91
Estimate GoC	●	●	●	●	●●●	●●●	●●●	●●●	●●●	●	●●	●
Official	92	89	93	94	93	92	92	88	85	91	91	91
Administrative	92	89	93	94	93	92	92	88	85	91	91	90
Survey	NA	69	NA	NA	NA	NA	82	NA	NA	NA	NA	NA

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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.
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●●● 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.

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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.
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Description:

2003: Estimate based on coverage reported by national government. Estimate challenged by: S-

2004: Estimate based on coverage reported by national government. Colombia Demographic and Health Survey 2005 results ignored by working group. Polio results inconsistent with other vaccines. Polio birth dose may have been recorded as first recommended dose.Colombia Demographic and Health Survey 2005 card or history results of 69 percent modifed for recall bias to 80 percent based on 1st dose card or history coverage of 89 percent, 1st dose card only coverage of 71 percent and 3d dose card only coverage of 64 percent. Estimate challenged by: S-

2005: Estimate based on coverage reported by national government. Estimate challenged by: S-

2006: Estimate based on coverage reported by national government. Estimate challenged by: S-

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

2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+

2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 89 percent based on 1 survey(s). Colombia Demographic and Health Survey 2010 card or history results of 82 percent modifed for recall bias to 89 percent based on 1st dose card or history coverage of 94 percent, 1st dose card only coverage of 80 percent and 3d dose card only coverage of 76 percent. GoC=R+ S+ D+

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

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

2012: Estimate based on coverage reported by national government. Change in reported coverage from 2011 to 2012 partially attributable to change in denominators. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. 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. Estimate challenged by: D-
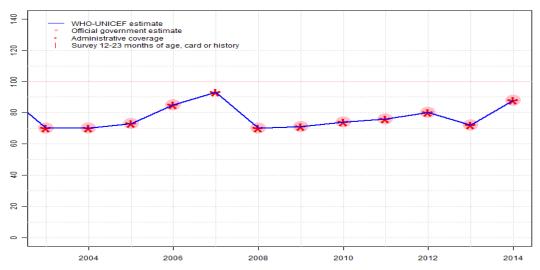
Colombia - MCV1

COL - MCV1

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	93	94	96	95	93	95	89	88	88	94	92	91
Estimate GoC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●	●	●
Official	93	94	96	95	93	95	89	88	88	94	92	91
Administrative	93	94	96	95	93	95	89	88	88	94	92	91
Survey	NA	82	NA	NA	NA	NA	81	NA	NA	NA	NA	NA

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

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[R-], [D-], or [S-], challenges the estimate.

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

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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.
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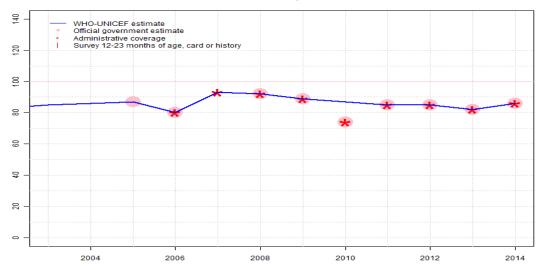
Description:

2003: Estimate based on coverage reported by national government. GoC=Assigned by working group. Estimate is supported by D+

2004: Estimate based on coverage reported by national government. Colombia Demographic and Health Survey 2005 results ignored by working group. Measles vaccination is recommend between 12-23 months of age. Survey cohort underestimates coverage. GoC=Assigned by working group. Estimate is supported by D+

2005: Estimate based on coverage reported by national government. GoC=Assigned by working group. Estimate is supported by D+

2006: Estimate based on coverage reported by national government. GoC=Assigned by working group. Estimate is supported by D+

2007: Estimate based on coverage reported by national government. GoC=Assigned by working group. Estimate is supported by D+

2008: Estimate based on coverage reported by national government. GoC=Assigned by working group. Estimate is supported by D+

2009: Estimate based on coverage reported by national government. Colombia Demographic and Health Survey 2010 results ignored by working group. Measles vaccination is recommend between 12-23 months of age. Survey cohort underestimates coverage. GoC=Assigned by working group. Estimate is supported by D+

2010: Estimate based on coverage reported by national government. GoC=Assigned by working group. Estimate is supported by D+

2011: Estimate based on coverage reported by national government. GoC=Assigned by working group. Estimate is supported by D+

2012: Estimate based on coverage reported by national government. Change in reported coverage from 2011 to 2012 partially attributable to change in denominators. Estimate challenged by: D-S-

2013: Estimate based on coverage reported by national government. Estimate challenged by: D-S-

2014: Estimate based on coverage reported by national government. No nation-ally 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-S-

Colombia - MCV2

COL - MCV2

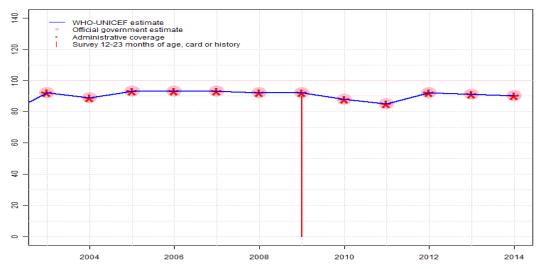|	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	70	70	73	85	93	70	71	74	76	80	72	88
Estimate GoC	••	••	••	••	••	••	••	••	••	•	••	•
Official	70	70	73	85	NA	70	71	74	76	80	72	88
Administrative	70	70	73	85	93	70	71	74	76	80	72	88
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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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.
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••• 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.

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Description:

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

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 coverage reported by national government. GoC=R+

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

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

2008: Estimate based on coverage reported by national government. GoC=R+ D+

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

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. Change in reported coverage from 2011 to 2012 partially attributable to change in denominators. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. Decline in coverage not explained. Estimate of 72 percent changed from previous revision value of 67 percent. 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.. Estimate challenged by: D-

Colombia - HepBB

COL - HepBB

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	85	86	87	80	93	92	89	87	85	85	82	86
Estimate GoC	●	●	●●	●●	●●	●●	●●	●	●●	●	●	●
Official	NA	NA	87	80	NA	92	89	74	85	85	82	86
Administrative	NA	NA	NA	80	93	92	89	74	85	85	82	86
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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that are of varying, and, in some instances, unknown quality. Beginning with the 2011 revision we describe
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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 Popula-
tion Division (D+), and at least one supporting survey within 2 years [S+]. While well
supported, the estimate still carries a risk of being wrong.

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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. GoC=R+

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

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

2008: Estimate based on coverage reported by national government. GoC=R+
D+

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

2010: Estimate based on interpolation between reported values. Reported data
excluded. Decline in reported coverage from 89 percent to 74 percent with
increase to 85 percent. Estimate challenged by: D-

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

2012: Estimate based on coverage reported by national government. Change in
reported coverage from 2011 to 2012 partially attributable to change in de-
nominators. Estimate of 85 percent changed from previous revision value
of 89 percent. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. Estimate
challenged by: D-

2014: Estimate based on coverage reported by national government. No nation-
ally representative household survey within the last 5 years. WHO and
UNICEF recommend a high-quality survey to confirm reported levels of
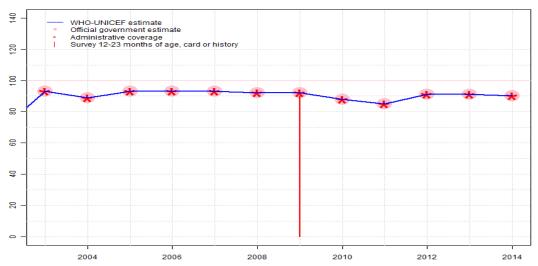coverage. Estimate challenged by: D-

COL - HepB3

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	92	89	93	93	93	92	92	88	85	92	91	90
Estimate GoC	●●	●●	●●	●●	●●●	●●●	●●●	●●●	●●●	●	●●	●
Official	92	89	93	93	93	92	92	88	85	92	91	90
Administrative	92	89	93	93	93	92	92	88	85	92	91	90
Survey	NA	NA	NA	NA	NA	NA	90	NA	NA	NA	NA	NA

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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.
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●●● 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.

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

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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.
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Description:

2003: Estimate based on coverage reported by national government. GoC=R+ D+

2004: Estimate based on coverage reported by national government. GoC=R+ D+

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

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

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

2008: Estimate based on coverage reported by national government. GoC=R+ S+ D+

2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Colombia Demographic and Health Survey 2010 card or history results of 90 percent modifed for recall bias to 92 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 82 percent and 3d dose card only coverage of 78 percent. GoC=R+ S+ D+

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

2011: Estimate based on reported administrative data. Government official report excluded due to inconsistency in adjustment to administrative data for component vaccines. GoC=R+ S+ D+

2012: Estimate based on coverage reported by national government. Change in reported coverage from 2011 to 2012 partially attributable to change in denominators. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. 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. Estimate challenged by: D-
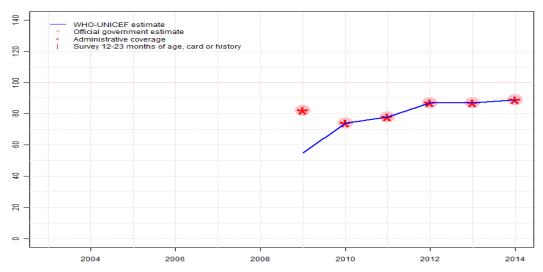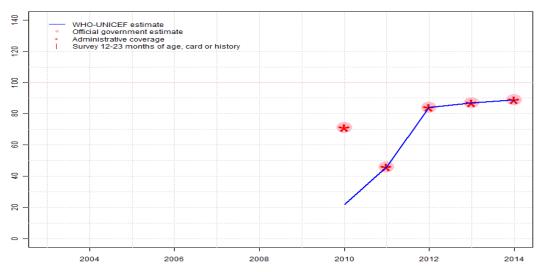
Colombia - Hib3

COL - Hib3

Legend:
— WHO-UNICEF estimate
● Official government estimate
* Administrative coverage
| Survey 12-23 months of age, card or history

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	93	89	93	93	93	92	92	88	85	91	91	90
Estimate GoC	●●	●●	●●	●●	●●●	●●●	●●●	●●●	●●●	●●	●●	●
Official	93	89	93	93	93	92	92	88	85	91	91	90
Administrative	93	89	93	93	93	92	92	88	85	91	91	90
Survey	NA	NA	NA	NA	NA	NA	90	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 data. GoC=R+ D+

2004: Estimate based on reported data. GoC=R+ D+

2005: Estimate based on reported data. GoC=R+ D+

2006: Estimate based on reported data. GoC=R+ D+

2007: Estimate based on reported data. GoC=R+ S+ D+

2008: Estimate based on reported data. GoC=R+ S+ D+

2009: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Colombia Demographic and Health Survey 2010 card or history results of 90 percent modifed for recall bias to 92 percent based on 1st dose card or history coverage of 97 percent, 1st dose card only coverage of 82 percent and 3d dose card only coverage of 78 percent. GoC=R+ S+ D+

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

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

2012: Estimate based on coverage reported by national government. Change in reported coverage from 2011 to 2012 partially attributable to change in denominators. GoC=R+ D+

2013: Estimate based on coverage reported by national government. 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. Estimate challenged by: D-

COL - RotaC

- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	55	74	78	87	87	89
Estimate GoC	NA	NA	NA	NA	NA	NA	●	●●	●●	●	●●	●
Official	NA	NA	NA	NA	NA	NA	82	74	78	87	87	89
Administrative	NA	NA	NA	NA	NA	NA	82	74	78	87	87	89
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.

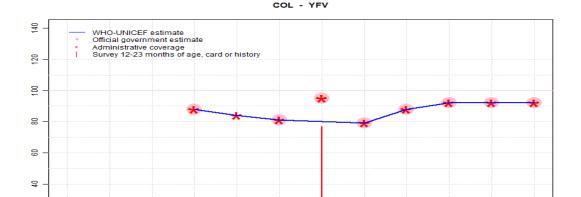●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk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

2009: Eighty-two percent coverage achieved in 67 percent of the total population. Rotavirus vaccine introduced in 2009. Estimate challenged by: 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. Change in reported coverage from 2011 to 2012 partially attributable to change in denominators. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. 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. Estimate challenged by: D-

Colombia - PcV3

COL - PcV3

Legend:
- WHO-UNICEF estimate
- Official government estimate
- Administrative coverage
- Survey 12-23 months of age, card or history

Description:

2010: Seventy-one percent coverage achieved in 31 percent of total population. Pneumococcal conjugate vaccine was introduced in 2010. Estimate challenged by: R-

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

2012: Estimate based on coverage reported by national government. Change in reported coverage from 2011 to 2012 partially attributable to change in denominators. GoC=R+ D+

2013: Estimate based on coverage reported by national government. 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. Estimate challenged by: D-

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	NA	22	46	84	87	89
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	●	●●	●●	●●	●
Official	NA	NA	NA	NA	NA	NA	NA	71	46	84	87	89
Administrative	NA	NA	NA	NA	NA	NA	NA	71	46	84	87	89
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.

COL - YFV

Legend:
- WHO-UNICEF estimate
- Official government estimate
- * Administrative coverage
- | Survey 12-23 months of age, card or history

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	88	84	81	80	79	88	92	92	92
Estimate GoC	NA	NA	NA	●●	●●●	●●●	●	●●●	●●	●	●	●
Official	NA	NA	NA	88	NA	81	95	79	88	92	92	92
Administrative	NA	NA	NA	88	84	81	95	79	88	92	92	92
Survey	NA	NA	NA	NA	NA	NA	77	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:

2006: Estimate based on reported data. YFV introduced in 2003 reporting started in 2006 GoC=R+ D+

2007: Estimate based on reported data. GoC=R+ S+ D+

2008: Estimate based on reported data. Decline attributed to vaccine shortage. GoC=R+ S+ D+

2009: Estimate based on interpolation between data reported by national government supported by survey. Survey evidence of 77 percent based on 1 survey(s). Reported data excluded. Unexplained increase from 81 percent to 95 percent with decrease 79 percent. Estimate challenged by: D-

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

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

2012: Estimate based on coverage reported by national government. Change in reported coverage from 2011 to 2012 partially attributable to change in denominators. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. 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-

2009 Encuesta Nacional de Demografía y Salud 2010, República de Colombia

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	97	12-23 m	3046	83
BCG	Card	82	12-23 m	3046	83
BCG	Card or History	97	12-23 m	3046	83
BCG	History	15	12-23 m	3046	83
DTP1	C or H <12 months	97	12-23 m	3046	83
DTP1	Card	82	12-23 m	3046	83
DTP1	Card or History	97	12-23 m	3046	83
DTP1	History	15	12-23 m	3046	83
DTP3	C or H <12 months	86	12-23 m	3046	83
DTP3	Card	78	12-23 m	3046	83
DTP3	Card or History	90	12-23 m	3046	83
DTP3	History	12	12-23 m	3046	83
HepB1	C or H <12 months	97	12-23 m	3046	83
HepB1	Card	82	12-23 m	3046	83
HepB1	Card or History	97	12-23 m	3046	83
HepB1	History	15	12-23 m	3046	83
HepB3	C or H <12 months	86	12-23 m	3046	83
HepB3	Card	78	12-23 m	3046	83
HepB3	Card or History	90	12-23 m	3046	83
HepB3	History	12	12-23 m	3046	83
Hib1	C or H <12 months	97	12-23 m	3046	83
Hib1	Card	82	12-23 m	3046	83
Hib1	Card or History	97	12-23 m	3046	83
Hib1	History	15	12-23 m	3046	83
Hib3	C or H <12 months	86	12-23 m	3046	83
Hib3	Card	78	12-23 m	3046	83
Hib3	Card or History	90	12-23 m	3046	83
Hib3	History	12	12-23 m	3046	83
MCV1	C or H <12 months	3	12-23 m	3046	83
MCV1	Card	68	12-23 m	3046	83
MCV1	Card or History	81	12-23 m	3046	83
MCV1	History	13	12-23 m	3046	83
Pol1	C or H <12 months	93	12-23 m	3046	83
Pol1	Card	80	12-23 m	3046	83
Pol1	Card or History	94	12-23 m	3046	83
Pol1	History	14	12-23 m	3046	83
Pol3	C or H <12 months	79	12-23 m	3046	83
Pol3	Card	76	12-23 m	3046	83
Pol3	Card or History	82	12-23 m	3046	83
Pol3	History	6	12-23 m	3046	83
YFV	Card or History	77	12-23 m	3046	83

2004 Salud sexual y reproductiva en Colombia, Encuesta nacional de demografia y salud 2005

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	96	12-23 m	2705	78
BCG	Card	76	12-23 m	2705	78
BCG	Card or History	97	12-23 m	2705	78
BCG	History	20	12-23 m	2705	78
DTP1	C or H <12 months	96	12-23 m	2705	78
DTP1	Card	77	12-23 m	2705	78
DTP1	Card or History	97	12-23 m	2705	78
DTP1	History	20	12-23 m	2705	78
DTP3	C or H <12 months	76	12-23 m	2705	78
DTP3	Card	71	12-23 m	2705	78
DTP3	Card or History	81	12-23 m	2705	78
DTP3	History	10	12-23 m	2705	78
MCV1	C or H <12 months	52	12-23 m	2705	78
MCV1	Card	65	12-23 m	2705	78
MCV1	Card or History	82	12-23 m	2705	78
MCV1	History	17	12-23 m	2705	78
Pol1	C or H <12 months	88	12-23 m	2705	78
Pol1	Card	71	12-23 m	2705	78
Pol1	Card or History	89	12-23 m	2705	78
Pol1	History	18	12-23 m	2705	78
Pol3	C or H <12 months	65	12-23 m	2705	78
Pol3	Card	64	12-23 m	2705	78
Pol3	Card or History	69	12-23 m	2705	78
Pol3	History	5	12-23 m	2705	78

1999 Salud Sexual y Reproductiva en Colombia, Resultados Encuesta Nacional de Demografía y Salud 2000

Colombia - survey details

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	92	12-23 m	890	75
BCG	Card	70	12-23 m	890	75
BCG	Card or History	93	12-23 m	890	75
BCG	History	23	12-23 m	890	75
DTP1	C or H <12 months	93	12-23 m	890	75
DTP1	Card	73	12-23 m	890	75
DTP1	Card or History	95	12-23 m	890	75
DTP1	History	22	12-23 m	890	75
DTP3	C or H <12 months	67	12-23 m	890	75
DTP3	Card	63	12-23 m	890	75
DTP3	Card or History	77	12-23 m	890	75
DTP3	History	13	12-23 m	890	75
HepB3	Card or History	77	12-23 m	890	75
MCV1	Card	52	12-23 m	890	75
MCV1	Card or History	71	12-23 m	890	75
MCV1	History	19	12-23 m	890	75
Pol1	C or H <12 months	95	12-23 m	890	75
Pol1	Card	74	12-23 m	890	75
Pol1	Card or History	97	12-23 m	890	75
Pol1	History	24	12-23 m	890	75
Pol3	C or H <12 months	63	12-23 m	890	75
Pol3	Card	62	12-23 m	890	75
Pol3	Card or History	71	12-23 m	890	75
Pol3	History	9	12-23 m	890	75

1998 Salud Sexual y Reproductiva en Colombia, Resultados Encuesta Nacional de Demografía y Salud 2000

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	92	24-35 m	894	75
DTP1	C or H <12 months	94	24-35 m	894	75
DTP3	C or H <12 months	71	24-35 m	894	75
Pol1	C or H <12 months	94	24-35 m	894	75
Pol3	C or H <12 months	60	24-35 m	894	75

1997 Salud Sexual y Reproductiva en Colombia, Resultados Encuesta Nacional de Demografía y Salud 2000

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	93	36-47 m	848	75
DTP1	C or H <12 months	93	36-47 m	848	75
DTP3	C or H <12 months	74	36-47 m	848	75
Pol1	C or H <12 months	94	36-47 m	848	75
Pol3	C or H <12 months	63	36-47 m	848	75

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

Colombia
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	73
2004	76
2005	77
2006	77
2007	78
2008	78
2009	78
2010	79
2011	79
2012	79
2013	79
2014	85

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[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.