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

BCG

DTP1

DTP3

Pol3

MCV1

HepB3

Hib3

RotaC

No estimate for infant immunization made.

PcV3

No estimate for infant immunization made.

NAM - BCG

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	94	95	88	95	88	85	88	89	90	94	97
Estimate GoC	•••	••	••	•	•••	•	•	•	•	•	•	•
Official	92	71	95	88	95	88	85	88	89	90	94	97
Administrative	92	71	95	86	75	88	85	87	89	90	94	97
Survey	NA	NA	95	NA	NA	NA	NA	NA	96	94	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.
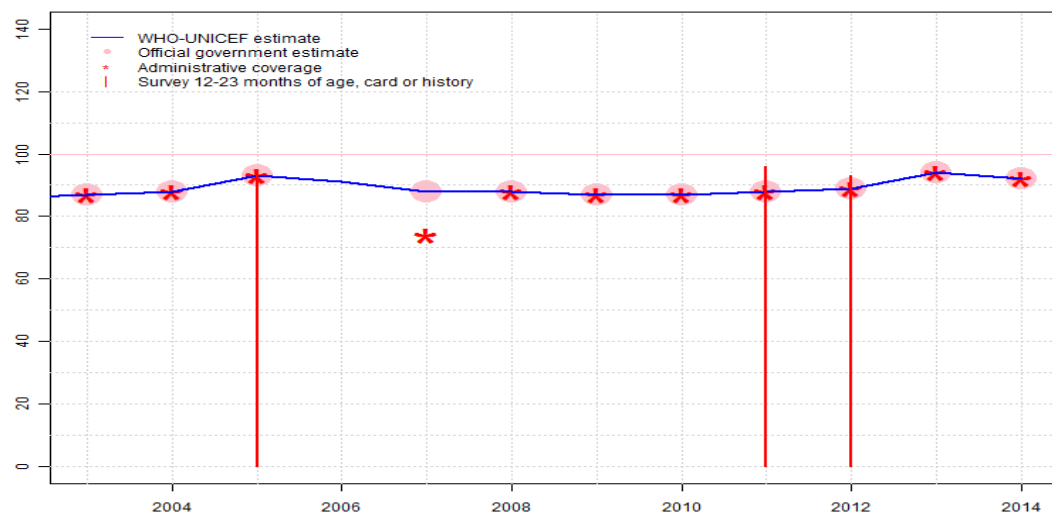
```
In all cases these estimates should be used with caution and should be assessed in light
of the objective for which they are being used.
```

Description:

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

2004: Estimate based on interpolation between coverage reported by national government. Reported data excluded. Decline in reported coverage from 92 percent to 71 percent with increase to 95 percent. GoC=S+ D+

2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). GoC=R+ S+

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

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

2008: Estimate based on coverage reported by national government. Estimate challenged by: D-

2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Estimate challenged by: D-

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 94 percent based on 1 survey(s). Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. Namibia conducted a census in 2011 and the data were released in 2013, hence population figures were adjusted according to the new census data. Growth of the country decreased from 2.6 to 1.4 and fertility rate also decreased from 4.1 to 3.6. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

Namibia - DTP1

NAM - 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	87	88	93	91	88	88	87	87	88	89	94	92
Estimate GoC	•••	•••	••	••	•••	•	•	•	•	•	•	•
Official	87	88	93	NA	88	88	87	87	88	89	94	92
Administrative	87	88	93	NA	74	88	87	87	88	89	94	92
Survey	NA	NA	95	NA	NA	NA	NA	NA	96	93	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 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-];
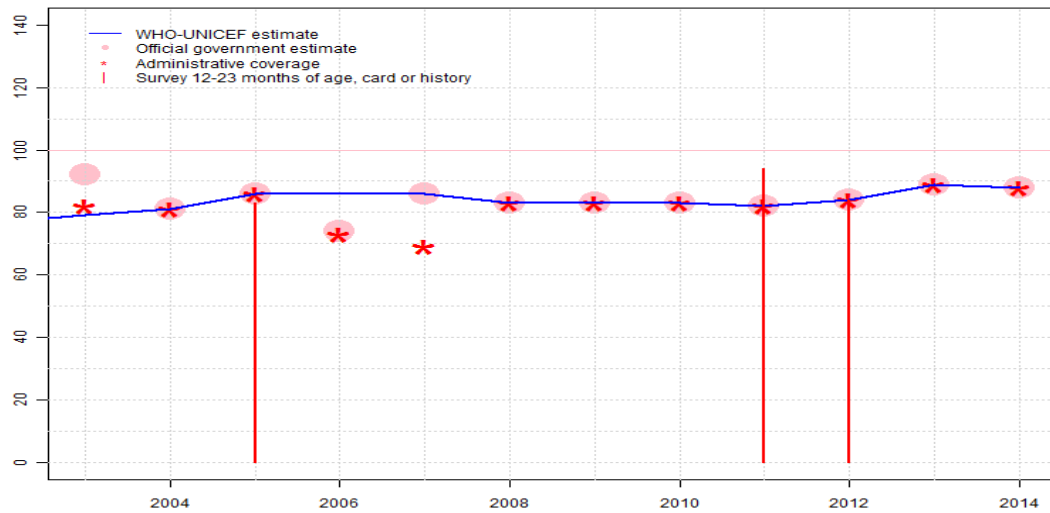   challenge the estimate.

```
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. GoC=R+ S+ D+

2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 95 percent based on 1 survey(s). GoC=R+ S+

2006: Estimate based on interpolation between coverage reported by national government. GoC=S+

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

2008: Estimate based on coverage reported by national government. Estimate challenged by: D-

2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 96 percent based on 1 survey(s). Estimate challenged by: D-

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 93 percent based on 1 survey(s). Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. Namibia conducted a census in 2011 and the data were released in 2013, hence population figures were adjusted according to the new census data. Growth of the country decreased from 2.6 to 1.4 and fertility rate also decreased from 4.1 to 3.6. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

NAM - DTP3

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

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	79	81	86	86	86	83	83	83	82	84	89	88
Estimate GoC	••	•••	••	••	•••	•	•	•	•	•	•	•
Official	92	81	86	74	86	83	83	83	82	84	89	88
Administrative	82	81	86	73	69	83	83	83	82	84	89	88
Survey	NA	NA	83	NA	NA	NA	NA	NA	94	84	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.
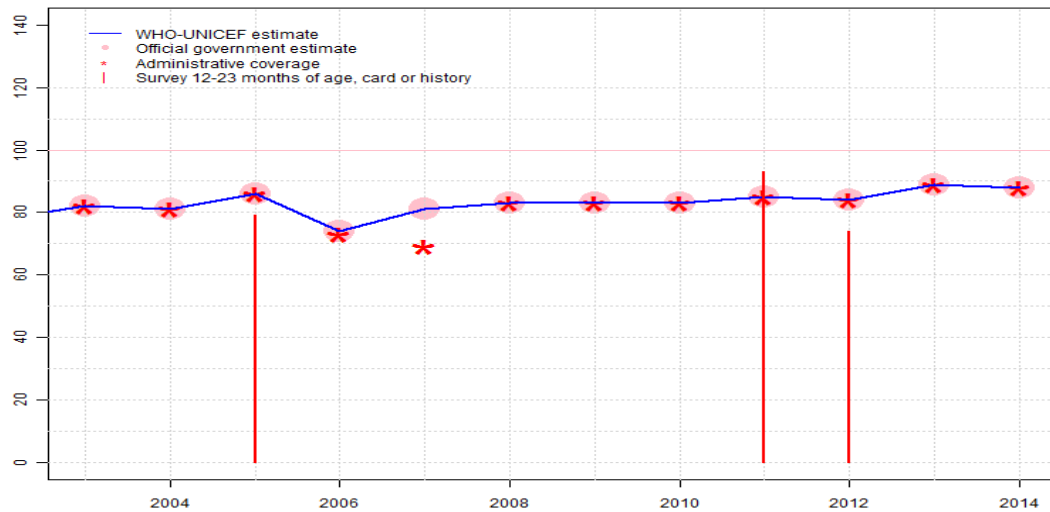
Description:

2003: Estimate based on interpolation between coverage reported by national government. Reported data excluded. Unexplained increase from 77 percent to 92 percent with decrease 81 percent. GoC=S+ D+

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

2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Namibia Demographic and Health Survey 2006 card or history results of 83 percent modfied for recall bias to 88 percent based on 1st dose card or history coverage of 95 percent, 1st dose card only coverage of 73 percent and 3d dose card only coverage of 68 percent. GoC=R+ S+

2006: Estimate based on interpolation between coverage reported by national government. Reported data excluded. Decline in reported coverage from 86 percent to 74 percent with increase to 86 percent. GoC=S+ D+

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

2008: Estimate based on coverage reported by national government. Estimate challenged by: D-

2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Report of the Post Measles Supplemental Immunisation and EPI Coverage Survey in Namibia, September 2012 card or history results of 94 percent modfied for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 79 percent and 3d dose card only coverage of 76 percent. Estimate challenged by: D-

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 90 percent based on 1 survey(s). Namibia Demographic and Health Survey 2013 card or history results of 84 percent modfied for recall bias to 90 percent based on 1st dose card or history coverage of 93 percent, 1st dose card only coverage of 69 percent and 3d dose card only coverage of 67 percent. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. Namibia conducted a census in 2011 and the data were released in 2013, hence population figures were adjusted according to the new census data. Growth of the country decreased from 2.6 to 1.4 and fertility rate also decreased from 4.1 to 3.6. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. Estimate

challenged by: D-

Namibia - Pol3

NAM - 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	82	81	86	74	81	83	83	83	85	84	89	88
Estimate GoC	●●●	●●●	●●	●	●●●	●	●	●	●	●	●	●
Official	82	81	86	74	81	83	83	83	85	84	89	88
Administrative	82	81	86	73	69	83	83	83	85	84	89	88
Survey	NA	NA	79	NA	NA	NA	NA	NA	93	74	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 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-];
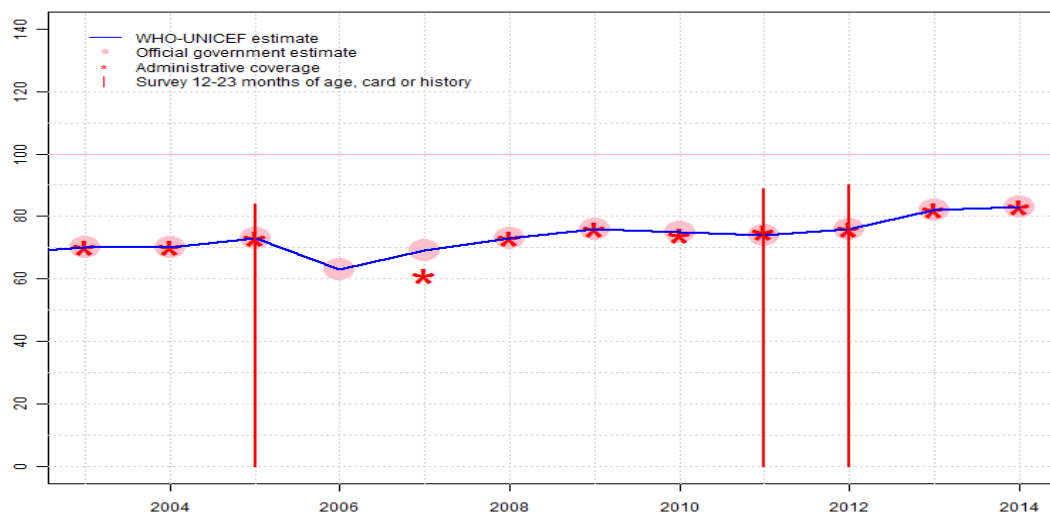   challenge the estimate.

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. GoC=R+ S+ D+

2005: Estimate based on coverage reported by national government supported by survey. Survey evidence of 88 percent based on 1 survey(s). Namibia Demographic and Health Survey 2006 card or history results of 79 percent modifed for recall bias to 88 percent based on 1st dose card or history coverage of 95 percent, 1st dose card only coverage of 73 percent and 3d dose card only coverage of 68 percent. GoC=R+ S+

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

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

2008: Estimate based on coverage reported by national government. Estimate challenged by: D-

2009: Estimate based on coverage reported by national government. Estimate challenged by: D-

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

2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 93 percent based on 1 survey(s). Estimate challenged by: D-

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 90 percent based on 1 survey(s). Namibia Demographic and Health Survey 2013 card or history results of 74 percent modifed for recall bias to 90 percent based on 1st dose card or history coverage of 93 percent, 1st dose card only coverage of 70 percent and 3d dose card only coverage of 68 percent. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. Namibia conducted a census in 2011 and the data were released in 2013, hence population figures were adjusted according to the new census data. Growth of the country decreased from 2.6 to 1.4 and fertility rate also decreased from 4.1 to 3.6. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

Namibia - MCV1

NAM - 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	70	70	73	63	69	73	76	75	74	76	82	83
Estimate GoC	●●	●●	●●	●●	●●	●	●	●	●	●	●	●
Official	70	70	73	63	69	73	76	75	74	76	82	83
Administrative	70	70	73	NA	61	73	76	74	75	76	82	83
Survey	NA	NA	84	NA	NA	NA	NA	NA	89	90	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+D+

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

2005: Survey supports reported for all other antigens. GoC=R+
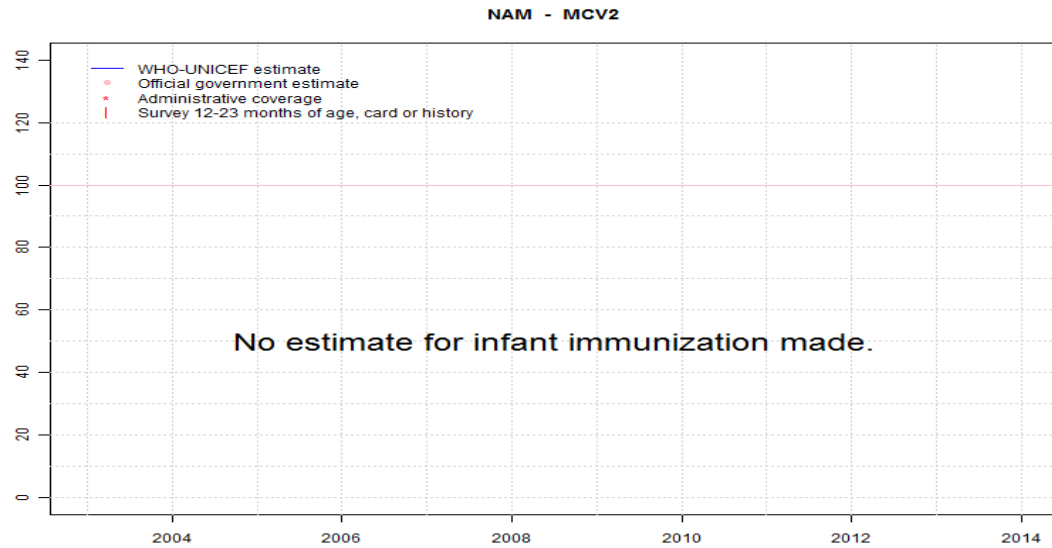
2006: Estimate based on coverage reported by national government. GoC=R+

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

2008: Estimate based on coverage reported by national government. Estimate challenged by: D-

2009: Estimate based on coverage reported by national government. Nationally reported estimates accepted for other vaccines. Estimate challenged by: D-S-

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

2011: Estimate based on coverage reported by national government. Report of the Post Measles Supplemental Immunisation and EPI Coverage Survey in Namibia, September 2012 results ignored by working group. Survey results likely include vaccination administered during supplementary immunization activities following outbreaks during 2009 and 2010. Estimate challenged by: D-S-

2011: Estimate based on coverage reported by national government. Report of the Post Measles Supplemental Immunisation and EPI Coverage Survey in Namibia, September 2012 results ignored by working group. Survey results likely include vaccination administered during supplementary immunization activities following outbreaks during 2009 and 2010. Estimate challenged by: D-S-

2011: Estimate based on coverage reported by national government. Report of the Post Measles Supplemental Immunisation and EPI Coverage Survey in Namibia, September 2012 results ignored by working group. Survey results likely include vaccination administered during supplementary immunization activities following outbreaks during 2009 and 2010. Estimate challenged by: D-S-

2012: Estimate based on coverage reported by national government. Namibia Demographic and Health Survey 2013 results ignored by working group. Survey results likely include vaccination administered during supplementary immunization activities following outbreaks during 2009 and 2010. Estimate challenged by: D-S-

2013: Estimate based on coverage reported by national government. Namibia conducted a census in 2011 and the data were released in 2013, hence population figures were adjusted according to the new census data. Growth

of the country decreased from 2.6 to 1.4 and fertility rate also decreased from 4.1 to 3.6. Estimate challenged by: D-S-

2014: Estimate based on coverage reported by national government. Estimate challenged by: D-S-

Namibia - MCV2

NAM - MCV2

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

No estimate for infant immunization made.

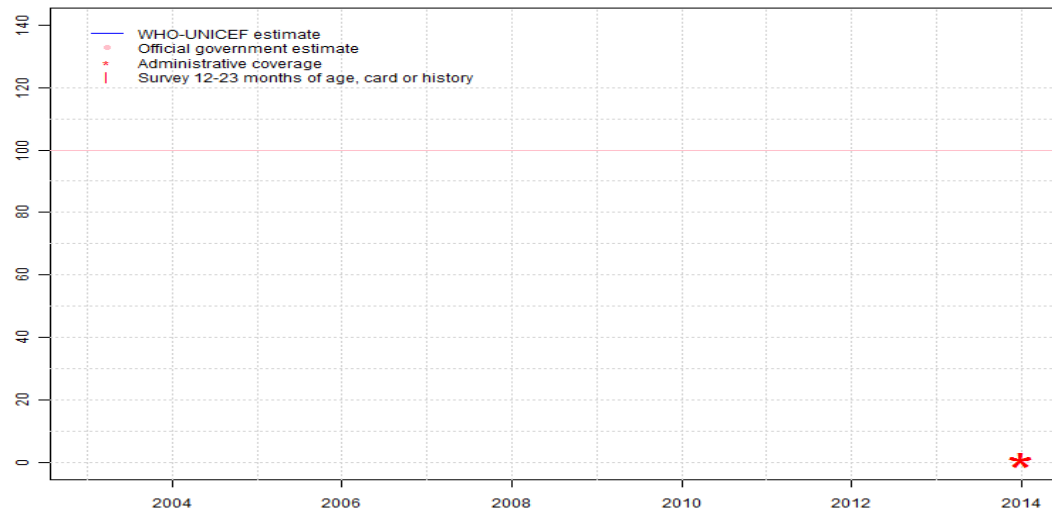|	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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 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.

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.

Namibia - HepBB

NAM - HepBB

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

Description:

2014: Estimate based on reported administrative estimate. HepB birth dose introduced during 2014. GoC=Assigned by working group. Consistency with other vaccines during an introduction period.

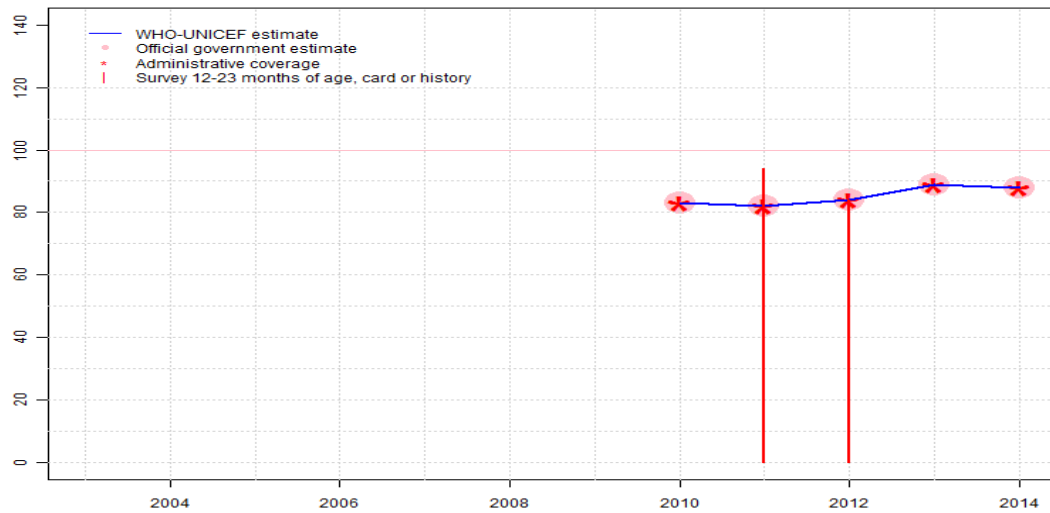|	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	●
Official	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Administrative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
Survey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

```
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.
```

NAM - HepB3

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	NA	NA	NA	NA	83	82	84	89	88
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	●	●	●	●	●
Official	NA	NA	NA	NA	NA	NA	NA	83	82	84	89	88
Administrative	NA	NA	NA	NA	NA	NA	NA	83	82	84	89	88
Survey	NA	NA	NA	NA	NA	NA	NA	NA	94	84	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.
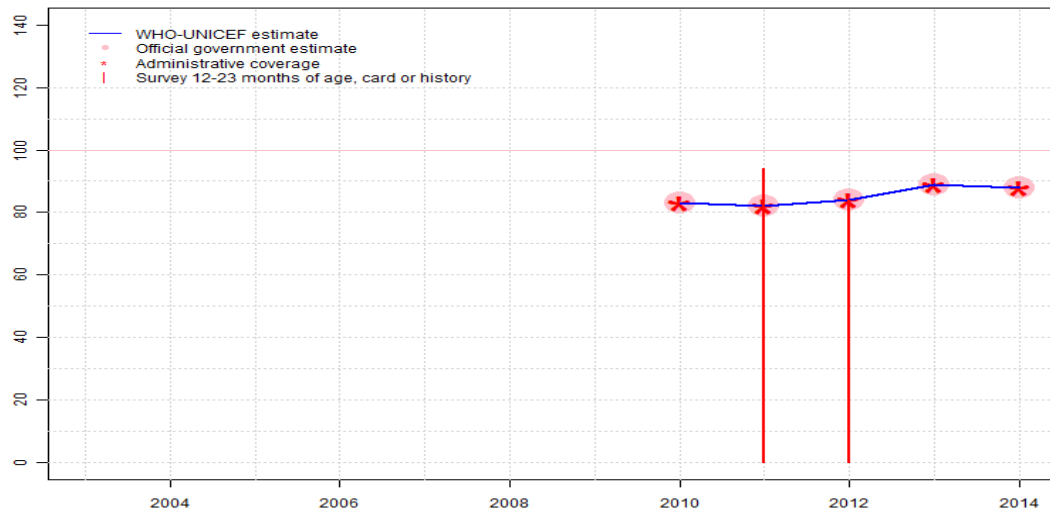
In all cases these estimates should be used with caution and should be assessed in light of the objective for which they are being used.

Description:

2010: Estimate based on reported data. DTP-HepB-Hib pentavalent vaccine was introduced in 2009. Reporting started in 2010. Estimate challenged by: D-

2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Report of the Post Measles Supplemental Immunisation and EPI Coverage Survey in Namibia, September 2012 card or history results of 94 percent modifed for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 79 percent and 3d dose card only coverage of 76 percent. Estimate challenged by: D-

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 90 percent based on 1 survey(s). Namibia Demographic and Health Survey 2013 card or history results of 84 percent modifed for recall bias to 90 percent based on 1st dose card or history coverage of 93 percent, 1st dose card only coverage of 69 percent and 3d dose card only coverage of 67 percent. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. Namibia conducted a census in 2011 and the data were released in 2013, hence population figures were adjusted according to the new census data. Growth of the country decreased from 2.6 to 1.4 and fertility rate also decreased from 4.1 to 3.6. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. Estimate challenged by: D-

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimate	NA	NA	NA	NA	NA	NA	NA	83	82	84	89	88
Estimate GoC	NA	NA	NA	NA	NA	NA	NA	●	●	●	●	●
Official	NA	NA	NA	NA	NA	NA	NA	83	82	84	89	88
Administrative	NA	NA	NA	NA	NA	NA	NA	83	82	84	89	88
Survey	NA	NA	NA	NA	NA	NA	NA	NA	94	84	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.
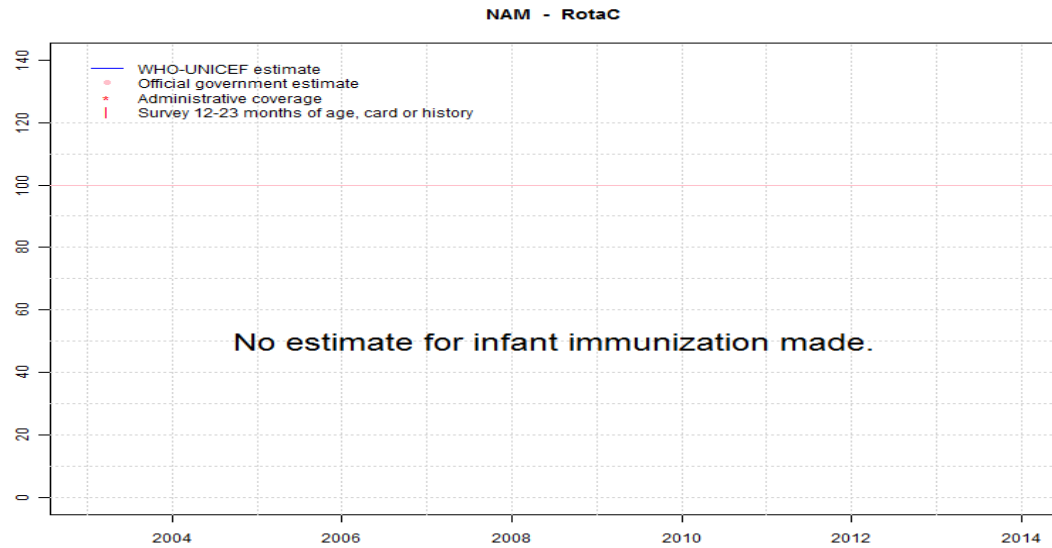
●●● Estimate is supported by reported data [R+], coverage recalculated with an independent denominator from the World Population Prospects: 2012 revision from the UN Population Division (D+), and at least one supporting survey within 2 years [S+]. While well supported, the estimate still carries a risk 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:

2010: Estimate based on reported data. DTP-HepB-Hib pentavalent vaccine was introduced in 2009. Reporting started in 2010. Estimate challenged by: D-

2011: Estimate based on coverage reported by national government supported by survey. Survey evidence of 92 percent based on 1 survey(s). Report of the Post Measles Supplemental Immunisation and EPI Coverage Survey in Namibia, September 2012 card or history results of 94 percent modifed for recall bias to 92 percent based on 1st dose card or history coverage of 96 percent, 1st dose card only coverage of 79 percent and 3d dose card only coverage of 76 percent. Estimate challenged by: D-

2012: Estimate based on coverage reported by national government supported by survey. Survey evidence of 90 percent based on 1 survey(s). Namibia Demographic and Health Survey 2013 card or history results of 84 percent modifed for recall bias to 90 percent based on 1st dose card or history coverage of 93 percent, 1st dose card only coverage of 69 percent and 3d dose card only coverage of 67 percent. Estimate challenged by: D-

2013: Estimate based on coverage reported by national government. Namibia conducted a census in 2011 and the data were released in 2013, hence population figures were adjusted according to the new census data. Growth of the country decreased from 2.6 to 1.4 and fertility rate also decreased from 4.1 to 3.6. Estimate challenged by: D-

2014: Estimate based on coverage reported by national government. Estimate challenged by: D-
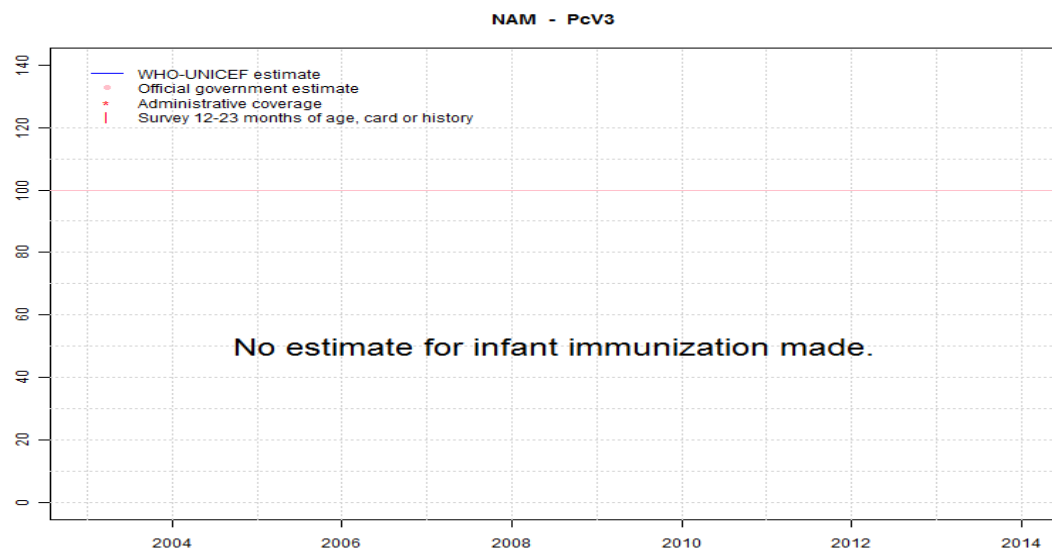
Namibia - RotaC

NAM - RotaC

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

No estimate for infant immunization made.

	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 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.

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.

Namibia - PcV3

NAM - PcV3

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

No estimate for infant immunization made.

	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 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.

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.

2012 Namibia Demographic and Health Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	94	12-23 m	938	70
BCG	Card	69	12-23 m	652	70
BCG	Card or History	94	12-23 m	938	70
BCG	History	25	12-23 m	286	70
DTP1	C or H <12 months	92	12-23 m	938	70
DTP1	Card	69	12-23 m	652	70
DTP1	Card or History	93	12-23 m	938	70
DTP1	History	24	12-23 m	286	70
DTP3	C or H <12 months	82	12-23 m	938	70
DTP3	Card	67	12-23 m	652	70
DTP3	Card or History	84	12-23 m	938	70
DTP3	History	16	12-23 m	286	70
HepB1	C or H <12 months	92	12-23 m	938	70
HepB1	Card	69	12-23 m	652	70
HepB1	Card or History	93	12-23 m	938	70
HepB1	History	24	12-23 m	286	70
HepB3	C or H <12 months	82	12-23 m	938	70
HepB3	Card	67	12-23 m	652	70
HepB3	Card or History	84	12-23 m	938	70
HepB3	History	16	12-23 m	286	70
Hib1	C or H <12 months	92	12-23 m	938	70
Hib1	Card	69	12-23 m	652	70
Hib1	Card or History	93	12-23 m	938	70
Hib1	History	24	12-23 m	286	70
Hib3	C or H <12 months	82	12-23 m	938	70
Hib3	Card	67	12-23 m	652	70
Hib3	Card or History	84	12-23 m	938	70
Hib3	History	16	12-23 m	286	70
MCV1	C or H <12 months	83	12-23 m	938	70
MCV1	Card	66	12-23 m	652	70
MCV1	Card or History	90	12-23 m	938	70
MCV1	History	23	12-23 m	286	70
Pol1	C or H <12 months	92	12-23 m	938	70
Pol1	Card	70	12-23 m	652	70
Pol1	Card or History	93	12-23 m	938	70
Pol1	History	23	12-23 m	286	70
Pol3	C or H <12 months	73	12-23 m	938	70
Pol3	Card	68	12-23 m	652	70
Pol3	Card or History	74	12-23 m	938	70
Pol3	History	6	12-23 m	286	70

2011 Namibia Demographic and Health Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	93	24-35 m	926	70
DTP1	C or H <12 months	92	24-35 m	926	70
DTP3	C or H <12 months	72	24-35 m	926	70
HepB1	C or H <12 months	92	24-35 m	926	70
HepB3	C or H <12 months	72	24-35 m	926	70
Hib1	C or H <12 months	92	24-35 m	926	70
Hib3	C or H <12 months	72	24-35 m	926	70
MCV1	C or H <12 months	74	24-35 m	926	70
Pol1	C or H <12 months	91	24-35 m	926	70
Pol3	C or H <12 months	65	24-35 m	926	70

2011 Report of the Post Measles Supplemental Immunisation and EPI Coverage Survey in Namibia, September 2012

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	79	12-23 m	-	88
BCG	Card or History	96	12-23 m	1470	88
DTP1	Card	79	12-23 m	-	88
DTP1	Card or History	96	12-23 m	1470	88
DTP3	Card	76	12-23 m	-	88
DTP3	Card or History	94	12-23 m	1470	88
HepB1	Card	79	12-23 m	-	88
HepB1	Card or History	96	12-23 m	1470	88
HepB3	Card	76	12-23 m	-	88
HepB3	Card or History	94	12-23 m	1470	88
Hib1	Card	79	12-23 m	-	88
Hib1	Card or History	96	12-23 m	1470	88
Hib3	Card	76	12-23 m	-	88
Hib3	Card or History	94	12-23 m	1470	88
MCV1	Card	72	12-23 m	-	88
MCV1	Card or History	89	12-23 m	1470	88

Pol3	Card	75	12-23 m	-	88
Pol3	Card or History	93	12-23 m	1470	88

2010 Namibia Demographic and Health Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	93	36-47 m	883	70
DTP1	C or H <12 months	91	36-47 m	883	70
DTP3	C or H <12 months	71	36-47 m	883	70
HepB1	C or H <12 months	91	36-47 m	883	70
HepB3	C or H <12 months	71	36-47 m	883	70
Hib1	C or H <12 months	91	36-47 m	883	70
Hib3	C or H <12 months	71	36-47 m	883	70
MCV1	C or H <12 months	77	36-47 m	883	70
Pol1	C or H <12 months	90	36-47 m	883	70
Pol3	C or H <12 months	58	36-47 m	883	70

2009 Namibia Demographic and Health Survey 2013

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	92	48-59 m	830	70
DTP1	C or H <12 months	90	48-59 m	830	70
DTP3	C or H <12 months	72	48-59 m	830	70
HepB1	C or H <12 months	90	48-59 m	830	70
HepB3	C or H <12 months	72	48-59 m	830	70
Hib1	C or H <12 months	90	48-59 m	830	70
Hib3	C or H <12 months	72	48-59 m	830	70
MCV1	C or H <12 months	75	48-59 m	830	70
Pol1	C or H <12 months	91	48-59 m	830	70
Pol3	C or H <12 months	60	48-59 m	830	70

2005 Namibia Demographic and Health Survey 2006

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	C or H <12 months	95	12-23 m	987	73

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card	72	12-23 m	987	73
BCG	Card or History	95	12-23 m	987	73
BCG	History	22	12-23 m	987	73
DTP1	C or H <12 months	93	12-23 m	987	73
DTP1	Card	73	12-23 m	987	73
DTP1	Card or History	95	12-23 m	987	73
DTP1	History	22	12-23 m	987	73
DTP3	C or H <12 months	81	12-23 m	987	73
DTP3	Card	68	12-23 m	987	73
DTP3	Card or History	83	12-23 m	987	73
DTP3	History	15	12-23 m	987	73
MCV1	C or H <12 months	78	12-23 m	987	73
MCV1	Card	63	12-23 m	987	73
MCV1	Card or History	84	12-23 m	987	73
MCV1	History	21	12-23 m	987	73
Pol1	C or H <12 months	94	12-23 m	987	73
Pol1	Card	73	12-23 m	987	73
Pol1	Card or History	95	12-23 m	987	73
Pol1	History	23	12-23 m	987	73
Pol3	C or H <12 months	76	12-23 m	987	73
Pol3	Card	68	12-23 m	987	73
Pol3	Card or History	79	12-23 m	987	73
Pol3	History	10	12-23 m	987	73

1999 Namibia Demographic and Health Survey 2000

Vaccine	Confirmation method	Coverage	Age cohort	Sample	Cards seen
BCG	Card or History	90	12-23 m	816	74
BCG	History	19	12-23 m	816	74
DTP1	Card	72	12-23 m	816	74
DTP1	Card or History	92	12-23 m	816	74
DTP1	History	20	12-23 m	816	74
DTP3	Card	69	12-23 m	816	74
DTP3	Card or History	79	12-23 m	816	74
DTP3	History	10	12-23 m	816	74
MCV1	Card	64	12-23 m	816	74
MCV1	Card or History	80	12-23 m	816	74
MCV1	History	16	12-23 m	816	74
Pol1	Card	73	12-23 m	816	74

Namibia - survey details

Pol1	Card or History	94	12-23 m	816	74		Pol3	Card or History	77	12-23 m	816	74
Pol1	History	20	12-23 m	816	74		Pol3	History	8	12-23 m	816	74
Pol3	Card	69	12-23 m	816	74						

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

Namibia
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	78
2004	79
2005	80
2006	81
2007	82
2008	82
2009	82
2010	83
2011	83
2012	83
2013	83
2014	85

_____

[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.