

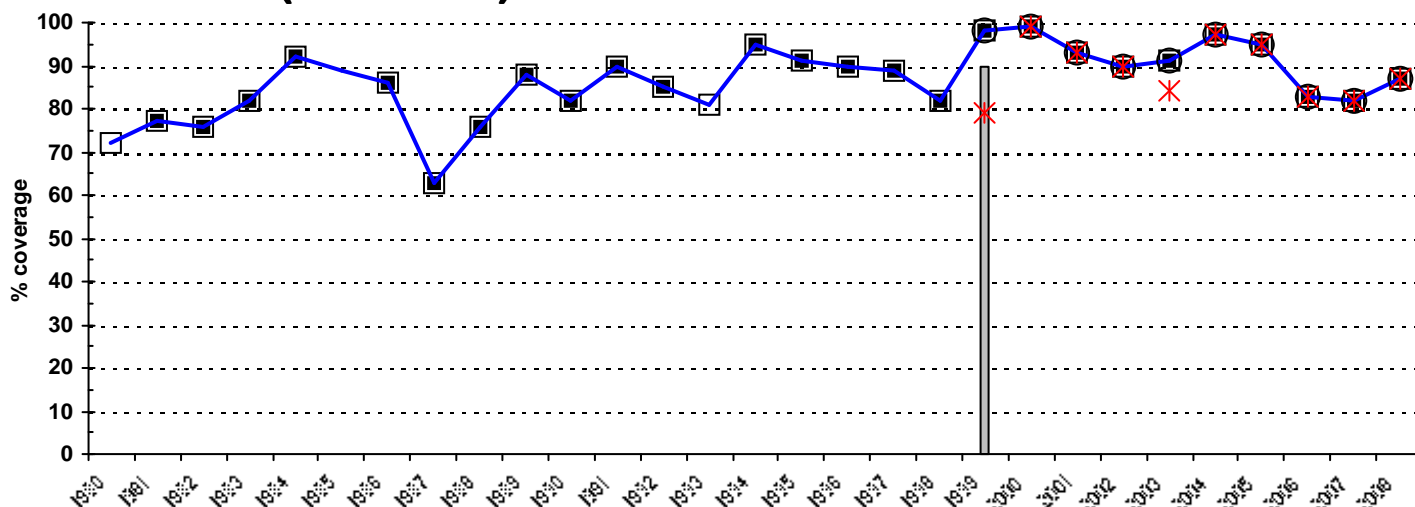
**WHO/UNICEF
Review of National Immunization Coverage
1980-2008**

Venezuela

July, 2009

Venezuela

BCG (1980-2008)



Description of trend

Trend follows WHO officially reported data . An increase to 97% is reported in 1999, supported by the MICS.

Data presented in chart

| Year | WHO/ UNICEF estimate (%) | Reported to:* | | Government official estimate (%) | Reported doses administered (%)** | Survey data (%)*** | |
|------|-----------------------------------|---------------|---------------|---|--|---------------------------|-------------------------|
| | | WHO (%) | UNICEF (%) | | | Survey 12-23 months | Survey <12 months |
| 1980 | 72 | 72 | | | | | |
| 1981 | 77 | 77 | 77 | | | | |
| 1982 | 76 | 76 | 76 | | | | |
| 1983 | 82 | 82 | 82 | | | | |
| 1984 | 92 | 92 | 92 | | | | |
| 1985 | 89 | | | | | | |
| 1986 | 86 | 86 | 86 | | | | |
| 1987 | 63 | 63 | 63 | | | | |
| 1988 | 76 | 76 | 76 | | | | |
| 1989 | 88 | 88 | 88 | | | | |
| 1990 | 82 | 82 | 82 | | | | |
| 1991 | 90 | 90 | 90 | | | | |
| 1992 | 85 | 85 | 85 | | | | |
| 1993 | 81 | 81 | | | | | |
| 1994 | 95 | 95 | 95 | | | | |
| 1995 | 91 | 91 | 91 | | | | |
| 1996 | 90 | 90 | 90 | | | | |
| 1997 | 89 | 89 | 89 | | | | |
| 1998 | 82 | 82 | 82 | | | | |
| 1999 | 98 | 98 | 98 | 98 | 79 | 90 | |
| 2000 | 99 | 99 | 99 | 99 | 99 | | |
| 2001 | 93 | 93 | 93 | 93 | 93 | | |
| 2002 | 90 | 90 | 90 | 90 | 90 | | |
| 2003 | 91 | 91 | 91 | 91 | 84 | | |
| 2004 | 97 | 97 | 97 | 97 | 97 | | |
| 2005 | 95 | 95 | 95 | 95 | 95 | | |
| 2006 | 83 | 83 | 83 | 83 | 83 | | |
| 2007 | 82 | 82 | 82 | 82 | 82 | | |
| 2008 | 87 | 87 | 87 | 87 | 87 | | |

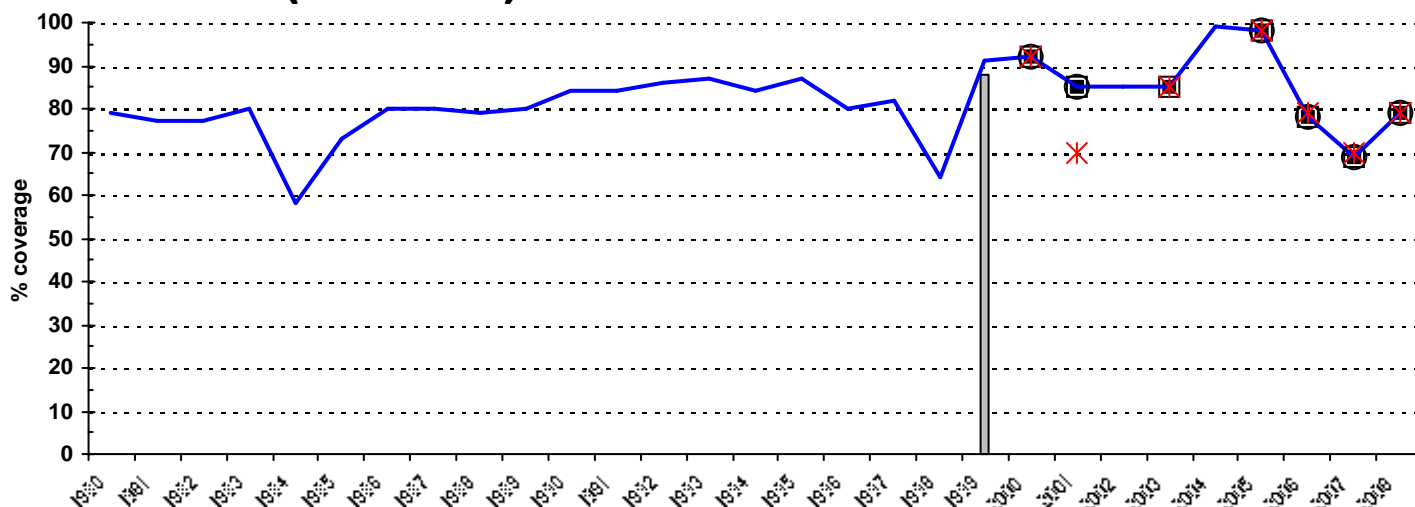
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Venezuela

DTP1 (1980-2008)



Description of trend

WHO and UNICEF began requesting data on DTP1 coverage in 2001 and have received national reports reflecting DTP1 coverage from 2001 onward. The DTP1 estimates from 2000-2004 are based on these reports. For years prior to 2000 the estimates are derived from the WHO/UNICEF estimates of DTP3 and the relationship between the levels of DTP3 coverage and the drop-out between DTP1 and DTP3. This relationship results from an analysis of 282 surveys conducted in 101 countries which were published between 1980 and 2004. Vaccine stock reported for 2 months in 2006.

Data presented in chart

| Year | WHO/ UNICEF estimate (%) | Reported to:* | | Government official estimate (%) | Reported doses administered (%)** | Survey data (%)*** | |
|------|-----------------------------------|---------------|---------------|---|---|---------------------------|-------------------------|
| | | WHO (%) | UNICEF (%) | | | Survey 12-23 months | Survey <12 months |
| 1980 | 79 | | | | | | |
| 1981 | 77 | | | | | | |
| 1982 | 77 | | | | | | |
| 1983 | 80 | | | | | | |
| 1984 | 58 | | | | | | |
| 1985 | 73 | | | | | | |
| 1986 | 80 | | | | | | |
| 1987 | 80 | | | | | | |
| 1988 | 79 | | | | | | |
| 1989 | 80 | | | | | | |
| 1990 | 84 | | | | | | |
| 1991 | 84 | | | | | | |
| 1992 | 86 | | | | | | |
| 1993 | 87 | | | | | | |
| 1994 | 84 | | | | | | |
| 1995 | 87 | | | | | | |
| 1996 | 80 | | | | | | |
| 1997 | 82 | | | | | | |
| 1998 | 64 | | | | | | |
| 1999 | 91 | | | | | 88 | |
| 2000 | 92 | 92 | 92 | 92 | 92 | | |
| 2001 | 85 | 85 | 85 | 85 | 70 | | |
| 2002 | 85 | | | | | | |
| 2003 | 85 | 85 | 85 | | 85 | | |
| 2004 | 99 | 110 | 110 | 110 | 110 | | |
| 2005 | 98 | 98 | 98 | 98 | 98 | | |
| 2006 | 78 | 78 | 78 | 78 | 79 | | |
| 2007 | 69 | 69 | 69 | 69 | 70 | | |
| 2008 | 79 | 79 | 79 | 79 | 79 | | |

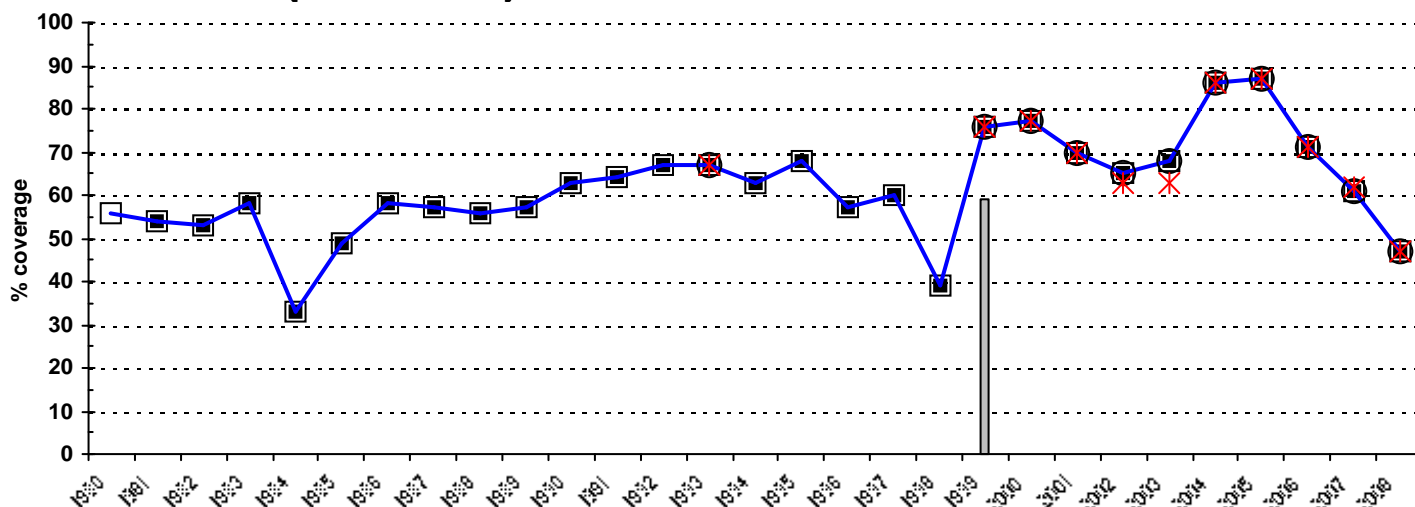
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Venezuela

DTP3 (1980-2008)



Description of trend

Estimates are based on nationally reported data . UNICEF recommends a high quality survey. Vaccine stock-out-out reported for 2 months in 2006.

Data presented in chart

| Year | WHO/ UNICEF estimate (%) | Reported to:* | | Government official estimate (%) | Reported doses administered (%)** | Survey data (%)*** | |
|------|-----------------------------------|---------------|---------------|---|--|---------------------------|-------------------------|
| | | WHO (%) | UNICEF (%) | | | Survey 12-23 months | Survey <12 months |
| 1980 | 56 | 56 | | | | | |
| 1981 | 54 | 54 | 54 | | | | |
| 1982 | 53 | 53 | 53 | | | | |
| 1983 | 58 | 58 | 58 | | | | |
| 1984 | 33 | 33 | 33 | | | | |
| 1985 | 49 | 49 | 49 | | | | |
| 1986 | 58 | 58 | 58 | | | | |
| 1987 | 57 | 57 | 57 | | | | |
| 1988 | 56 | 56 | 56 | | | | |
| 1989 | 57 | 57 | 57 | | | | |
| 1990 | 63 | 63 | 63 | | | | |
| 1991 | 64 | 64 | 64 | | | | |
| 1992 | 67 | 67 | 67 | | | | |
| 1993 | 67 | 67 | 67 | 67 | 67 | | |
| 1994 | 63 | 63 | 63 | | | | |
| 1995 | 68 | 68 | 68 | | | | |
| 1996 | 57 | 57 | 57 | | | | |
| 1997 | 60 | 60 | 60 | | | | |
| 1998 | 39 | 39 | 39 | | | | |
| 1999 | 76 | 76 | 76 | 76 | 76 | 59 | |
| 2000 | 77 | 77 | 77 | 77 | 77 | | |
| 2001 | 70 | 70 | 70 | 70 | 70 | | |
| 2002 | 65 | 65 | 65 | 65 | 63 | | |
| 2003 | 68 | 68 | 68 | 68 | 63 | | |
| 2004 | 86 | 86 | 86 | 86 | 86 | | |
| 2005 | 87 | 87 | 87 | 87 | 87 | | |
| 2006 | 71 | 71 | 71 | 71 | 71 | | |
| 2007 | 61 | 61 | 61 | 61 | 62 | | |
| 2008 | 47 | 47 | 47 | 47 | 47 | | |

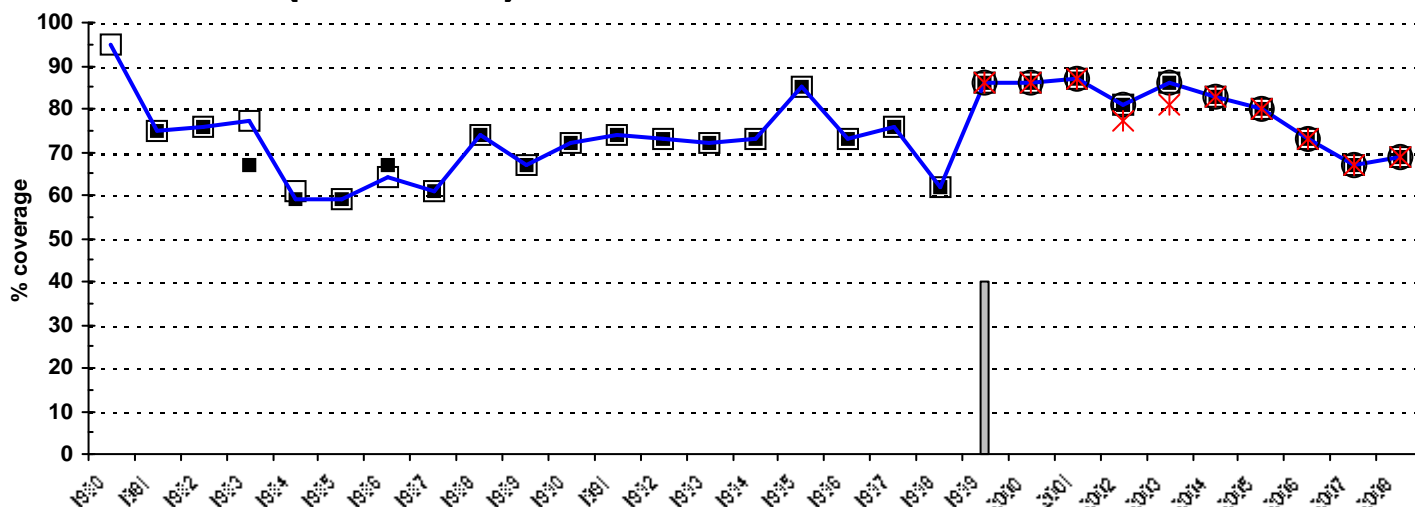
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Venezuela

Pol3 (1980-2008)



Description of trend

Estimates are based on nationally reported data. UNICEF recommends a high quality survey.

Data presented in chart

| Year | WHO/ UNICEF estimate (%) | Reported to:* | | Government official estimate (%) | Reported doses administered (%)** | Survey data (%)*** | |
|------|-----------------------------------|---------------|---------------|---|--|---------------------------|-------------------------|
| | | WHO (%) | UNICEF (%) | | | Survey 12-23 months | Survey <12 months |
| 1980 | 95 | 95 | | | | | |
| 1981 | 75 | 75 | 75 | | | | |
| 1982 | 76 | 76 | 76 | | | | |
| 1983 | 77 | 77 | 67 | | | | |
| 1984 | 59 | 61 | 59 | | | | |
| 1985 | 59 | 59 | 59 | | | | |
| 1986 | 64 | 64 | 67 | | | | |
| 1987 | 61 | 61 | 61 | | | | |
| 1988 | 74 | 74 | 74 | | | | |
| 1989 | 67 | 67 | 67 | | | | |
| 1990 | 72 | 72 | 72 | | | | |
| 1991 | 74 | 74 | 74 | | | | |
| 1992 | 73 | 73 | 73 | | | | |
| 1993 | 72 | 72 | 72 | | | | |
| 1994 | 73 | 73 | 73 | | | | |
| 1995 | 85 | 85 | 85 | | | | |
| 1996 | 73 | 73 | 73 | | | | |
| 1997 | 76 | 76 | 76 | | | | |
| 1998 | 62 | 62 | 62 | | | | |
| 1999 | 86 | 86 | 86 | 86 | 86 | 40 | |
| 2000 | 86 | 86 | 86 | 86 | 86 | | |
| 2001 | 87 | 87 | 87 | 87 | 87 | | |
| 2002 | 81 | 81 | 81 | 81 | 77 | | |
| 2003 | 86 | 86 | 86 | 86 | 81 | | |
| 2004 | 83 | 83 | 83 | 83 | 83 | | |
| 2005 | 80 | 80 | 80 | 80 | 80 | | |
| 2006 | 73 | 73 | 73 | 73 | 73 | | |
| 2007 | 67 | 67 | 67 | 67 | 67 | | |
| 2008 | 69 | 69 | 69 | 69 | 69 | | |

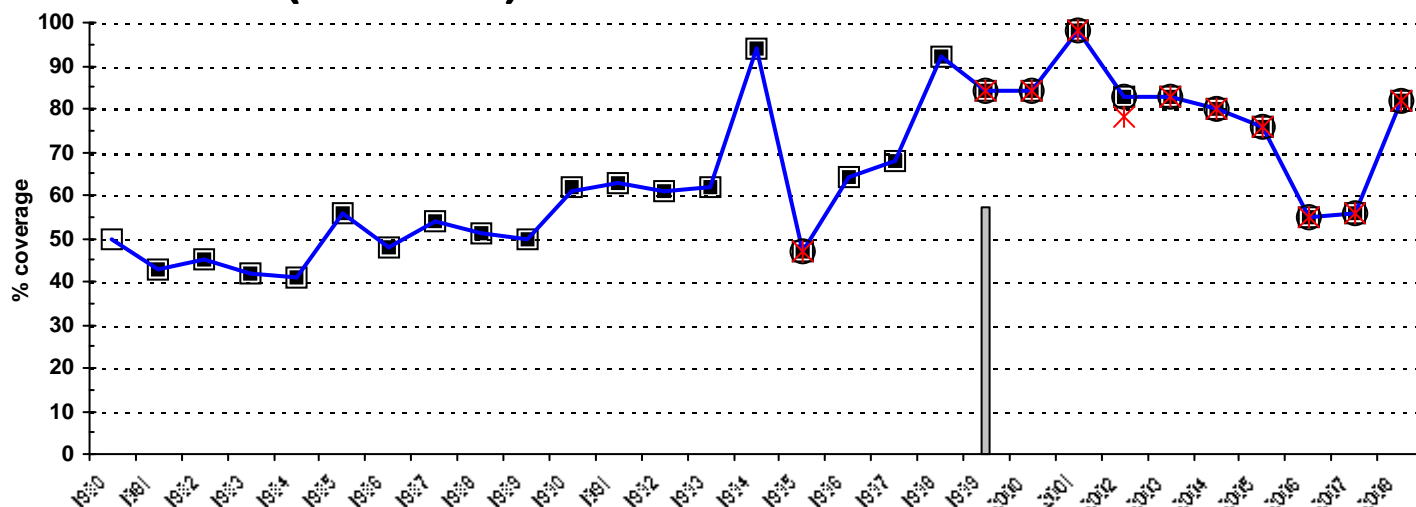
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Venezuela

MCV (1980-2008)



Description of trend

Estimates are based on nationally reported data. In 2006, Venezuela conducted an MR vaccination campaign among children under 2 years with 95% coverage achieved. UNICEF recommends a high quality survey. 2008 coverage data includes campaign results.

Data presented in chart

| Year | WHO/ UNICEF estimate (%) | Reported to:* | | Government official estimate (%) | Reported doses administered (%)** | Survey data (%)*** | |
|------|-----------------------------------|---------------|---------------|---|--|---------------------------|-------------------------|
| | | WHO (%) | UNICEF (%) | | | Survey 12-23 months | Survey <12 months |
| 1980 | 50 | 50 | | | | | |
| 1981 | 43 | 43 | 43 | | | | |
| 1982 | 45 | 45 | 45 | | | | |
| 1983 | 42 | 42 | 42 | | | | |
| 1984 | 41 | 41 | 41 | | | | |
| 1985 | 56 | 56 | 56 | | | | |
| 1986 | 48 | 48 | 48 | | | | |
| 1987 | 54 | 54 | 54 | | | | |
| 1988 | 51 | 51 | 51 | | | | |
| 1989 | 50 | 50 | 50 | | | | |
| 1990 | 61 | 62 | 62 | | | | |
| 1991 | 63 | 63 | 63 | | | | |
| 1992 | 61 | 61 | 61 | | | | |
| 1993 | 62 | 62 | 62 | | | | |
| 1994 | 94 | 94 | 94 | | | | |
| 1995 | 47 | 47 | 47 | 47 | 47 | | |
| 1996 | 64 | 64 | 64 | | | | |
| 1997 | 68 | 68 | 68 | | | | |
| 1998 | 92 | 92 | 92 | | | | |
| 1999 | 84 | 84 | 84 | 84 | 84 | 57 | |
| 2000 | 84 | 84 | 84 | 84 | 84 | | |
| 2001 | 98 | 98 | 98 | 98 | 98 | | |
| 2002 | 83 | 83 | 83 | 83 | 83 | | 78 |
| 2003 | 83 | 83 | 83 | 83 | 83 | | |
| 2004 | 80 | 80 | 80 | 80 | 80 | | |
| 2005 | 76 | 76 | 76 | 76 | 76 | | |
| 2006 | 55 | 55 | 55 | 55 | 55 | | |
| 2007 | 56 | 56 | 56 | 56 | 56 | | |
| 2008 | 82 | 82 | 82 | 82 | 82 | | |

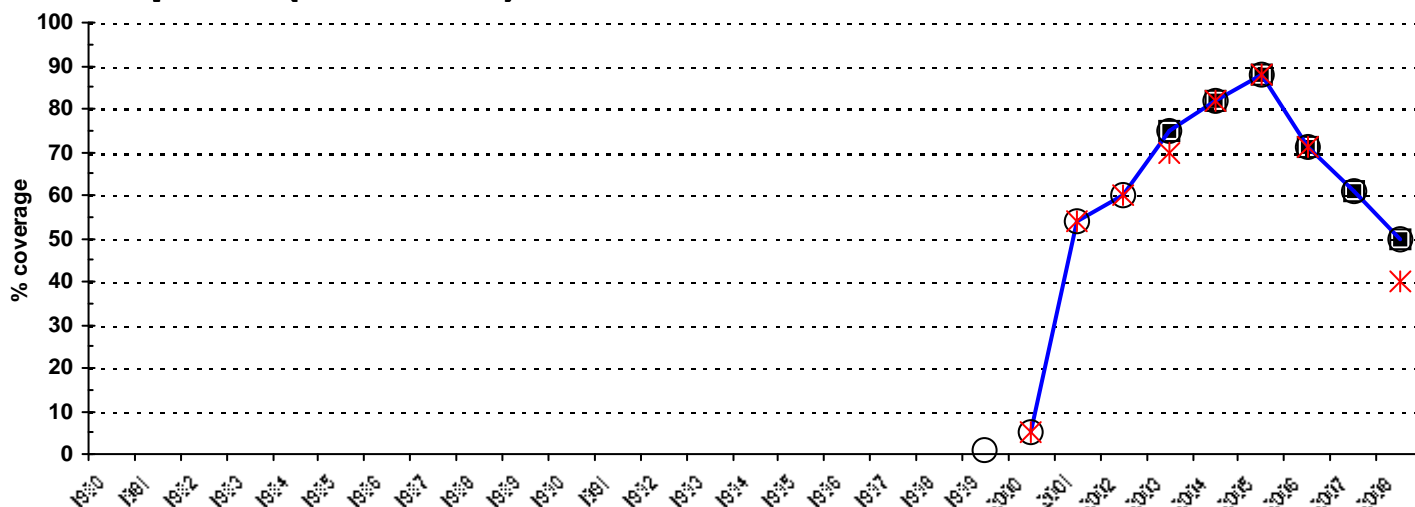
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Venezuela

HepB3 (1980-2008)



Description of trend

Hepatitis B vaccine introduced in 2000. Vaccine stock-out reported for 2 months in 2006. Estimates are based on nationally reported data. UNICEF recommends a high quality survey.

Data presented in chart

| Year | WHO/ UNICEF estimate (%) — | Reported to:* | | Government official estimate (%) ○ | Reported doses administered (%)** ✕ | Survey data (%)*** | |
|------|--|---------------------|------------------------|--|---|-----------------------------------|----------------------------------|
| | | WHO (%) □ | UNICEF (%) ■ | | | Survey 12-23 months | Survey <12 months + |
| 1980 | | | | | | | |
| 1981 | | | | | | | |
| 1982 | | | | | | | |
| 1983 | | | | | | | |
| 1984 | | | | | | | |
| 1985 | | | | | | | |
| 1986 | | | | | | | |
| 1987 | | | | | | | |
| 1988 | | | | | | | |
| 1989 | | | | | | | |
| 1990 | | | | | | | |
| 1991 | | | | | | | |
| 1992 | | | | | | | |
| 1993 | | | | | | | |
| 1994 | | | | | | | |
| 1995 | | | | | | | |
| 1996 | | | | | | | |
| 1997 | | | | | | | |
| 1998 | | | | | | | |
| 1999 | | | | 1 | | | |
| 2000 | 5 | | | 5 | 5 | | |
| 2001 | 54 | | | 54 | 54 | | |
| 2002 | 60 | | | 60 | 60 | | |
| 2003 | 75 | 75 | 75 | 75 | 70 | | |
| 2004 | 82 | 82 | 82 | 82 | 82 | | |
| 2005 | 88 | 88 | 88 | 88 | 88 | | |
| 2006 | 71 | 71 | 71 | 71 | 71 | | |
| 2007 | 61 | 61 | 61 | 61 | 127 | | |
| 2008 | 50 | 50 | 50 | 50 | 40 | | |

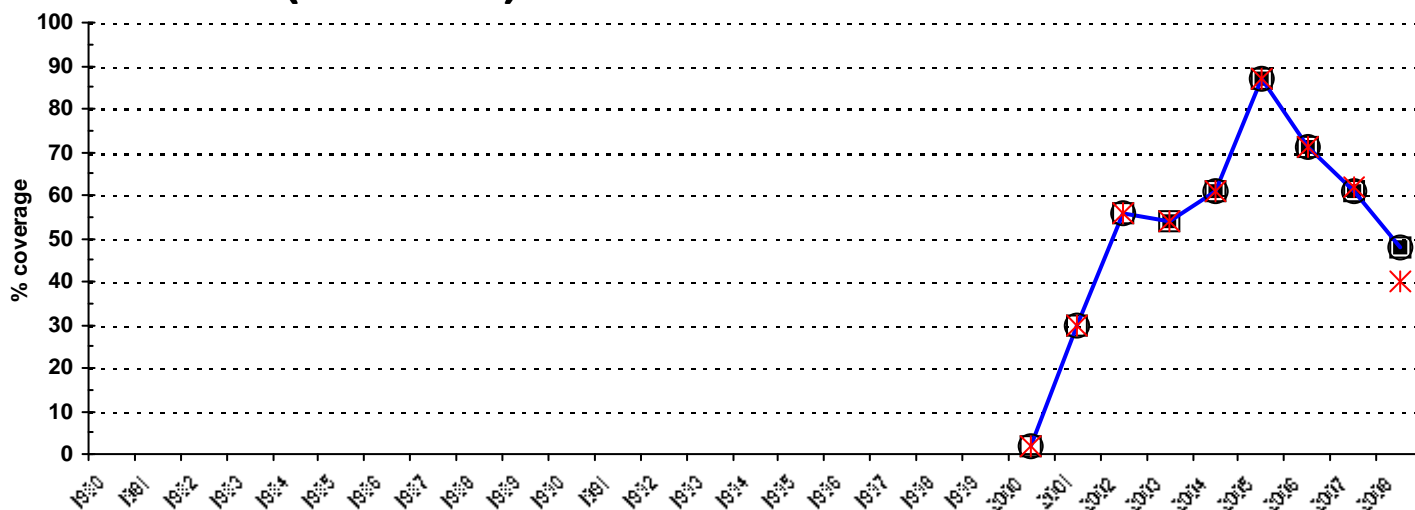
*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Venezuela

Hib3 (1980-2008)



Description of trend

Hib vaccine introduced in 2000. Vaccine stock-out reported for 2 months in 2006. Estimates are based on nationally reported data. UNICEF recommends a high quality survey.

Data presented in chart

| Year | WHO/ UNICEF estimate (%) | Reported to:* | | Government official estimate (%) | Reported doses administered (%)** | Survey data (%)*** | |
|------|-----------------------------------|---------------|---------------|---|--|---------------------------|-------------------------|
| | | WHO (%) | UNICEF (%) | | | Survey 12-23 months | Survey <12 months |
| 1980 | | | | | | | |
| 1981 | | | | | | | |
| 1982 | | | | | | | |
| 1983 | | | | | | | |
| 1984 | | | | | | | |
| 1985 | | | | | | | |
| 1986 | | | | | | | |
| 1987 | | | | | | | |
| 1988 | | | | | | | |
| 1989 | | | | | | | |
| 1990 | | | | | | | |
| 1991 | | | | | | | |
| 1992 | | | | | | | |
| 1993 | | | | | | | |
| 1994 | | | | | | | |
| 1995 | | | | | | | |
| 1996 | | | | | | | |
| 1997 | | | | | | | |
| 1998 | | | | | | | |
| 1999 | | | | | | | |
| 2000 | 2 | 2 | | 2 | 2 | | |
| 2001 | 30 | 30 | | 30 | 30 | | |
| 2002 | 56 | 56 | | 56 | 56 | | |
| 2003 | 54 | 54 | 54 | | 54 | | |
| 2004 | 61 | 61 | 61 | 61 | 61 | | |
| 2005 | 87 | 87 | 87 | 87 | 87 | | |
| 2006 | 71 | 71 | 71 | 71 | 71 | | |
| 2007 | 61 | 61 | 61 | 61 | 62 | | |
| 2008 | 48 | 48 | 48 | 48 | 40 | | |

*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

**Coverage based on registration of doses administered by health care providers.

***In case more than one survey was implemented in a certain year the highest value is presented. Details of all data are presented in the second section of this report.

Venezuela

Details Survey Data

Year Source

| Antigen | Confirmation method | % coverage | Compliance with schedule | Age group | Sample size | % cards seen | Survey year | Comments |
|--|---------------------|------------|--------------------------|-------------|-------------|--------------|-------------|----------|
| 1999 Encuesta MICS-Venezuela 2000 | | | | | | | | |
| BCG | Card or History | 90 | | 12-23 m | | | 2000 | |
| DTP1 | Card or History | 88.2 | | 12-23 m | | | 2000 | |
| DTP3 | Card or History | 58.6 | | 12-23 m | | | 2000 | |
| Pol3 | Card or History | 39.9 | | 12-23 m | | | 2000 | |
| MCV | Card or History | 57.2 | | 12-23 m | | | 2000 | |
| PAB | Card or History | 46.3 | | Women 15-49 | | | 2000 | |

Venezuela

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 receive 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.

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.

Venezuela

| Year | PAB coverage estimate (%) |
|-------------|----------------------------------|
| 1980 | |
| 1981 | |
| 1982 | |
| 1983 | |
| 1984 | |
| 1985 | |
| 1986 | |
| 1987 | |
| 1988 | |
| 1989 | |
| 1990 | |
| 1991 | |
| 1992 | |
| 1993 | |
| 1994 | |
| 1995 | |
| 1996 | |
| 1997 | |
| 1998 | |
| 1999 | |
| 2000 | |
| 2001 | 24 |
| 2002 | 26 |
| 2003 | 48 |
| 2004 | 48 |
| 2005 | 51 |
| 2006 | 49 |
| 2007 | 51 |
| 2008 | 52 |