

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

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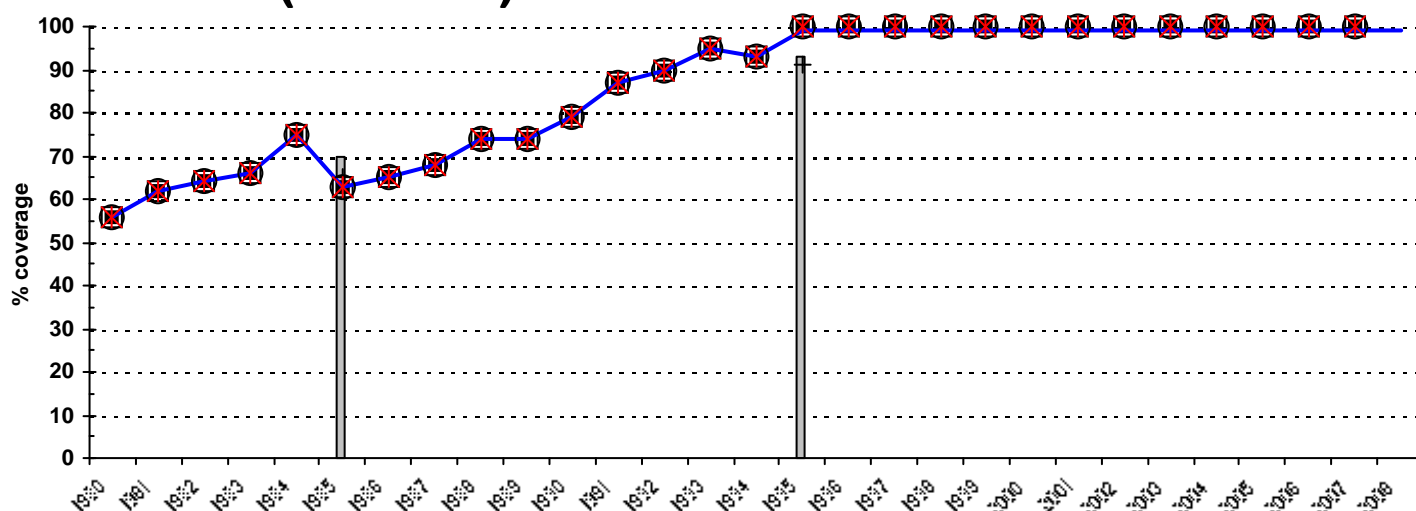
***Brazil***

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**July, 2009**

# Brazil

## BCG (1980-2008)



### Description of trend

Trend follows WHO officially reported data. Survey data support reported level of coverage in the mid 1980s. In the late 1990s official data are believed to overestimate coverage due to problems with the denominator. For the late 1990s the level of coverage is confirmed by survey data. WHO/UNICEF recommend conducting a high quality survey to verify reported levels of coverage.

### Data presented in chart

| Year | WHO/<br>UNICEF<br>estimate<br>(%) | Reported to:* |               | Government<br>official<br>estimate<br>(%) | Reported<br>doses<br>administered<br>(%)** | Survey data (%)***        |                         |
|------|-----------------------------------|---------------|---------------|---|--|---------------------------|-------------------------|
|      |                                   | WHO<br>(%)    | UNICEF<br>(%) |   |  | Survey<br>12-23<br>months | Survey<br><12<br>months |
| 1980 | 56                                | 56            | 56            | 56  | 56   |                           |                         |
| 1981 | 62                                | 62            | 62            | 62  | 62   |                           |                         |
| 1982 | 64                                | 64            | 64            | 64  | 64   |                           |                         |
| 1983 | 66                                | 66            | 66            | 66  | 66   |                           |                         |
| 1984 | 75                                | 75            | 75            | 75  | 75   |                           |                         |
| 1985 | 63                                | 63            | 63            | 63  | 63   | 70                        | 65                      |
| 1986 | 65                                | 65            | 65            | 65  | 65   |                           |                         |
| 1987 | 68                                | 68            | 68            | 68  | 68   |                           |                         |
| 1988 | 74                                | 74            | 74            | 74  | 74   |                           |                         |
| 1989 | 74                                | 74            | 74            | 74  | 74   |                           |                         |
| 1990 | 79                                | 79            | 79            | 79  | 79   |                           |                         |
| 1991 | 87                                | 87            | 87            | 87  | 87   |                           |                         |
| 1992 | 90                                | 90            | 90            | 90  | 90   |                           |                         |
| 1993 | 95                                | 95            | 95            | 95  | 95   |                           |                         |
| 1994 | 93                                | 93            | 93            | 93  | 93   |                           |                         |
| 1995 | 99                                | 100           | 100           | 100                                       | 100  | 93                        | 91                      |
| 1996 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 1997 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 1998 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 1999 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2000 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2001 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2002 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2003 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2004 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2005 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2006 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2007 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2008 | 99                                | 108           | 108           | 108                                       | 108  |                           |                         |

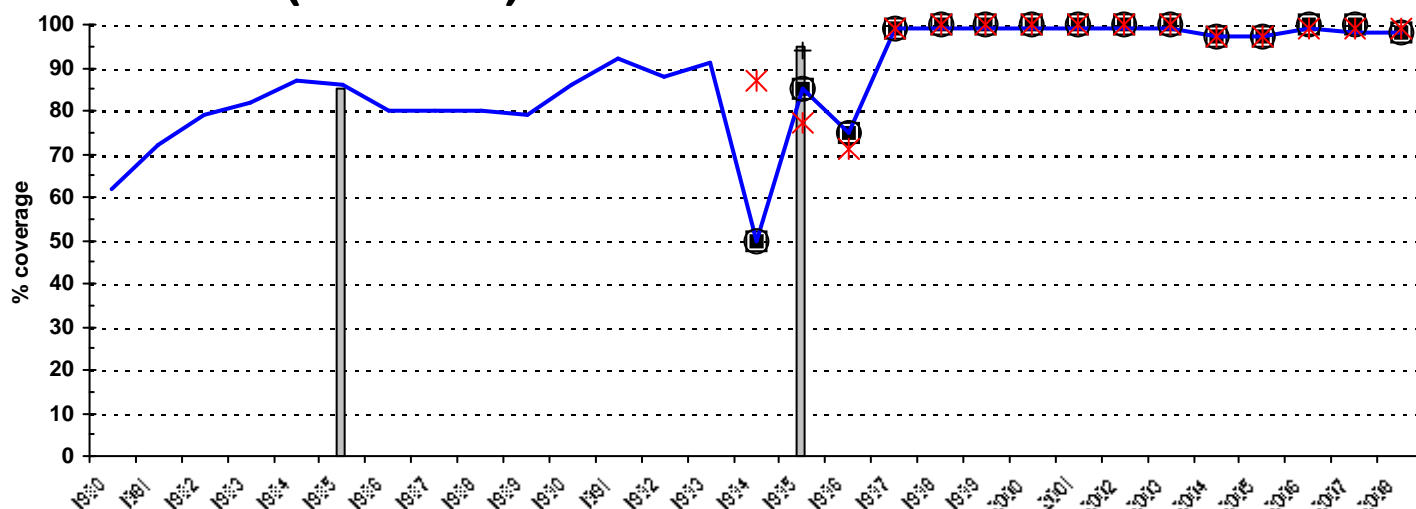
\*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

\*\*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.

# Brazil

## 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 onward 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. The DTP1 estimates are confirmed by the survey data for 1985 and 1995.

### Data presented in chart

| Year | WHO/<br>UNICEF<br>estimate<br>(%) | Reported to:* |               | Government<br>official<br>estimate<br>(%) | Reported<br>doses<br>administered<br>(%)** | Survey data (%)***        |                         |
|------|-----------------------------------|---------------|---------------|---|--|---------------------------|-------------------------|
|      |                                   | WHO<br>(%)    | UNICEF<br>(%) |   |  | Survey<br>12-23<br>months | Survey<br><12<br>months |
| 1980 | 62                                |               |               |   |  |                           |                         |
| 1981 | 72                                |               |               |   |  |                           |                         |
| 1982 | 79                                |               |               |   |  |                           |                         |
| 1983 | 82                                |               |               |   |  |                           |                         |
| 1984 | 87                                |               |               |   |  |                           |                         |
| 1985 | 86                                |               |               |   |  | 85                        |                         |
| 1986 | 80                                |               |               |   |  |                           |                         |
| 1987 | 80                                |               |               |   |  |                           |                         |
| 1988 | 80                                |               |               |   |  |                           |                         |
| 1989 | 79                                |               |               |   |  |                           |                         |
| 1990 | 86                                |               |               |   |  |                           |                         |
| 1991 | 92                                |               |               |   |  |                           |                         |
| 1992 | 88                                |               |               |   |  |                           |                         |
| 1993 | 91                                |               |               |   |  |                           |                         |
| 1994 | 50                                | 50            | 50            | 50  | 87   |                           |                         |
| 1995 | 85                                | 85            | 85            | 85  | 77   | 95                        | 94                      |
| 1996 | 75                                | 75            | 75            | 75  | 71   |                           |                         |
| 1997 | 99                                | 99            | 99            | 99  | 99   |                           |                         |
| 1998 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 1999 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2000 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2001 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2002 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2003 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2004 | 97                                | 97            | 97            | 97  | 97   |                           |                         |
| 2005 | 97                                | 97            | 97            | 97  | 97   |                           |                         |
| 2006 | 99                                | 100           | 100           | 100                                       | 99   |                           |                         |
| 2007 | 98                                | 100           | 100           | 100                                       | 99   |                           |                         |
| 2008 | 98                                | 98            | 98            | 98  | 99   |                           |                         |

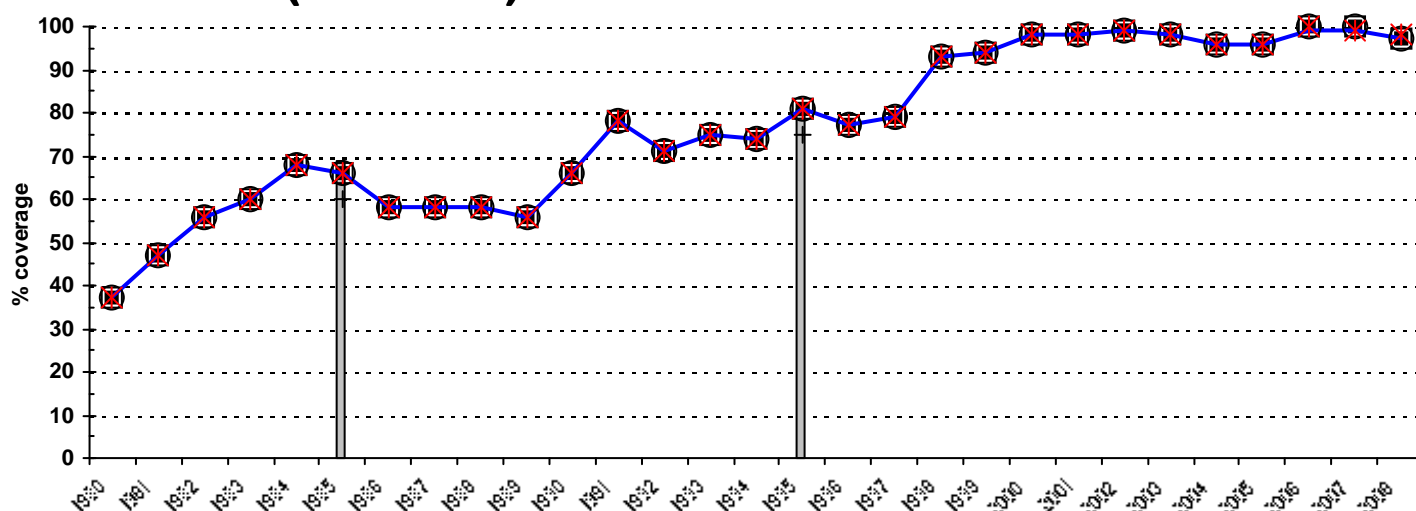
\*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

\*\*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.

# Brazil

## DTP3 (1980-2008)



### Description of trend

Trend follows officially reported data. 1998 and 1999 data have been lowered slightly to maintain the drop out from BCG. WHO/UNICEF recommend conducting a high quality survey to verify reported levels of coverage.

### Data presented in chart

| Year | WHO/<br>UNICEF<br>estimate<br>(%) | Reported to:* |               | Government<br>official<br>estimate<br>(%) | Reported<br>doses<br>administered<br>(%)** | Survey data (%)***        |                         |
|------|-----------------------------------|---------------|---------------|---|--|---------------------------|-------------------------|
|      |                                   | WHO<br>(%)    | UNICEF<br>(%) |   |  | Survey<br>12-23<br>months | Survey<br><12<br>months |
| 1980 | 37                                | 37            | 37            | 37  | 37   |                           |                         |
| 1981 | 47                                | 47            | 47            | 47  | 47   |                           |                         |
| 1982 | 56                                | 56            | 56            | 56  | 56   |                           |                         |
| 1983 | 60                                | 60            | 60            | 60  | 60   |                           |                         |
| 1984 | 68                                | 68            | 68            | 68  | 68   |                           |                         |
| 1985 | 66                                | 66            | 66            | 66  | 66   | 69                        | 60                      |
| 1986 | 58                                | 58            | 58            | 58  | 58   |                           |                         |
| 1987 | 58                                | 58            | 58            | 58  | 58   |                           |                         |
| 1988 | 58                                | 58            | 58            | 58  | 58   |                           |                         |
| 1989 | 56                                | 56            | 56            | 56  | 56   |                           |                         |
| 1990 | 66                                | 66            | 66            | 66  | 66   |                           |                         |
| 1991 | 78                                | 78            | 78            | 78  | 78   |                           |                         |
| 1992 | 71                                | 71            | 71            | 71  | 71   |                           |                         |
| 1993 | 75                                | 75            | 75            | 75  | 75   |                           |                         |
| 1994 | 74                                | 74            | 74            | 74  | 74   |                           |                         |
| 1995 | 81                                | 81            | 81            | 81  | 81   | 81                        | 75                      |
| 1996 | 77                                | 77            | 77            | 77  | 77   |                           |                         |
| 1997 | 79                                | 79            | 79            | 79  | 79   |                           |                         |
| 1998 | 93                                | 93            | 93            | 93  | 93   |                           |                         |
| 1999 | 94                                | 94            | 94            | 94  | 94   |                           |                         |
| 2000 | 98                                | 98            | 98            | 98  | 98   |                           |                         |
| 2001 | 98                                | 98            | 98            | 98  | 98   |                           |                         |
| 2002 | 99                                | 99            | 99            | 99  | 99   |                           |                         |
| 2003 | 98                                | 98            | 98            | 98  | 98   |                           |                         |
| 2004 | 96                                | 96            | 96            | 96  | 96   |                           |                         |
| 2005 | 96                                | 96            | 96            | 96  | 96   |                           |                         |
| 2006 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2007 | 99                                | 100           | 100           | 100                                       | 99   |                           |                         |
| 2008 | 97                                | 97            | 97            | 97  | 98   |                           |                         |

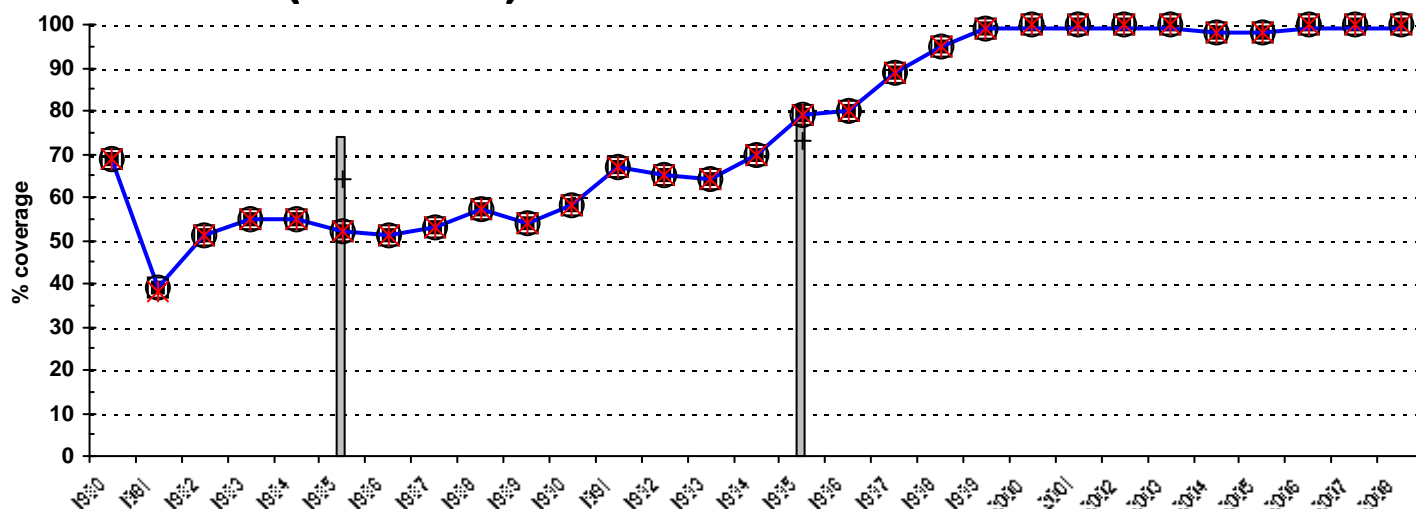
\*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

\*\*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.

# Brazil

## Pol3 (1980-2008)



### Description of trend

Trend follows officially reported data. The excess coverage over DPT3 is most likely the result of polio elimination campaigns. WHO/UNICEF recommend conducting a high quality survey to verify reported levels of coverage.

### Data presented in chart

| Year | WHO/<br>UNICEF<br>estimate<br>(%) | Reported to:* |               | Government<br>official<br>estimate<br>(%) | Reported<br>doses<br>administered<br>(%)** | Survey data (%)***        |                         |
|------|-----------------------------------|---------------|---------------|---|--|---------------------------|-------------------------|
|      |                                   | WHO<br>(%)    | UNICEF<br>(%) |   |  | Survey<br>12-23<br>months | Survey<br><12<br>months |
| 1980 | 69                                | 69            | 69            | 69  | 69   |                           |                         |
| 1981 | 39                                | 39            | 39            | 39  | 38   |                           |                         |
| 1982 | 51                                | 51            | 51            | 51  | 51   |                           |                         |
| 1983 | 55                                | 55            | 55            | 55  | 55   |                           |                         |
| 1984 | 55                                | 55            | 55            | 55  | 55   |                           |                         |
| 1985 | 52                                | 52            | 52            | 52  | 52   | 74                        | 64                      |
| 1986 | 51                                | 51            | 51            | 51  | 51   |                           |                         |
| 1987 | 53                                | 53            | 53            | 53  | 53   |                           |                         |
| 1988 | 57                                | 57            | 57            | 57  | 57   |                           |                         |
| 1989 | 54                                | 54            | 54            | 54  | 54   |                           |                         |
| 1990 | 58                                | 58            | 58            | 58  | 58   |                           |                         |
| 1991 | 67                                | 67            | 67            | 67  | 67   |                           |                         |
| 1992 | 65                                | 65            | 65            | 65  | 65   |                           |                         |
| 1993 | 64                                | 64            | 64            | 64  | 64   |                           |                         |
| 1994 | 70                                | 70            | 70            | 70  | 70   |                           |                         |
| 1995 | 79                                | 79            | 79            | 79  | 79   | 81                        | 73                      |
| 1996 | 80                                | 80            | 80            | 80  | 80   |                           |                         |
| 1997 | 89                                | 89            | 89            | 89  | 89   |                           |                         |
| 1998 | 95                                | 95            | 95            | 95  | 95   |                           |                         |
| 1999 | 99                                | 99            | 99            | 99  | 99   |                           |                         |
| 2000 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2001 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2002 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2003 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2004 | 98                                | 98            | 98            | 98  | 98   |                           |                         |
| 2005 | 98                                | 98            | 98            | 98  | 98   |                           |                         |
| 2006 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2007 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |
| 2008 | 99                                | 100           | 100           | 100                                       | 100  |                           |                         |

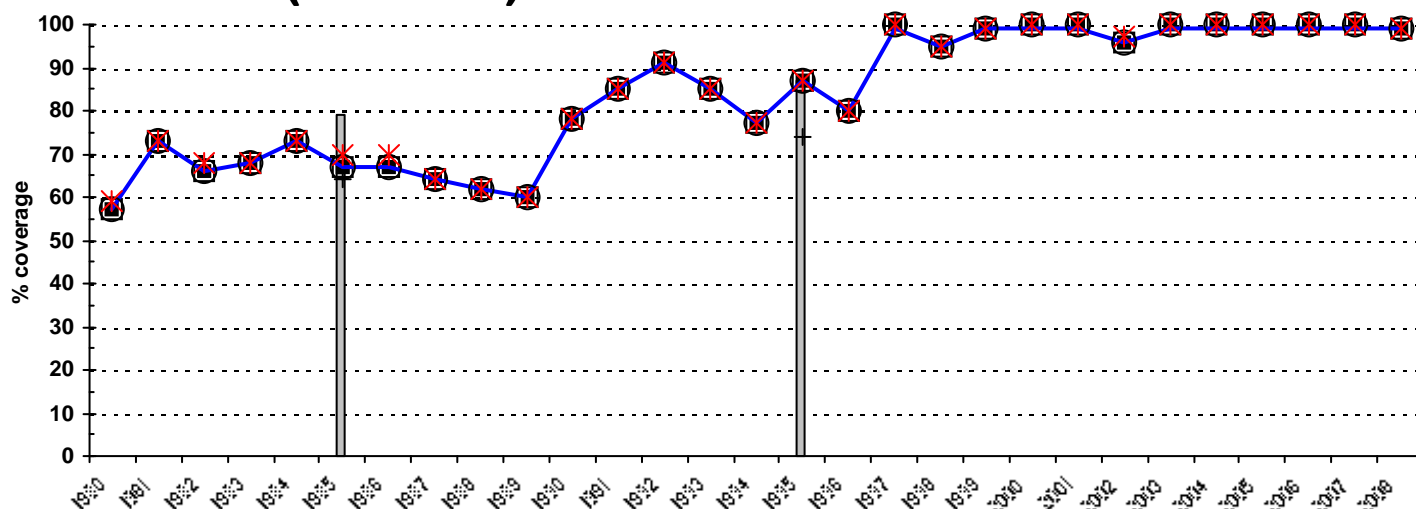
\*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

\*\*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.

# Brazil

## MCV (1980-2008)



### Description of trend

Trend follows officially reported data. The increase in coverage between 1981 and 1984 is due to local measles control campaigns. Increased attention has been given to measles control activities and high levels of coverage for the late 1990s is due to the adoption of a measles elimination strategy (Campaigns were conducted in 1992, 1995, 1997 and 2000). WHO/UNICEF recommend conducting a high quality survey to verify reported levels of coverage.

### Data presented in chart

| Year | WHO/<br>UNICEF<br>estimate<br>(%)<br><br>— | Reported to:*       |                        | Government<br>official<br>estimate<br>(%)<br><br>○ | Reported<br>doses<br>administered<br>(%)**<br><br>✕ | Survey data (%)***                |                                  |
|------|--|---------------------|------------------------|--|---|-----------------------------------|----------------------------------|
|      |  | WHO<br>(%)<br><br>□ | UNICEF<br>(%)<br><br>■ |  |   | Survey<br>12-23<br>months<br><br> | Survey<br><12<br>months<br><br>+ |
| 1980 | 57   | 57                  | 57                     | 57   | 59  |                                   |                                  |
| 1981 | 73   | 73                  | 73                     | 73   | 73  |                                   |                                  |
| 1982 | 66   | 66                  | 66                     | 66   | 68  |                                   |                                  |
| 1983 | 68   | 68                  | 68                     | 68   | 68  |                                   |                                  |
| 1984 | 73   | 73                  | 73                     | 73   | 73  |                                   |                                  |
| 1985 | 67   | 67                  | 67                     | 67   | 70  | 79                                | 64                               |
| 1986 | 67   | 67                  | 67                     | 67   | 70  |                                   |                                  |
| 1987 | 64   | 64                  | 64                     | 64   | 64  |                                   |                                  |
| 1988 | 62   | 62                  | 62                     | 62   | 62  |                                   |                                  |
| 1989 | 60   | 60                  | 60                     | 60   | 60  |                                   |                                  |
| 1990 | 78   | 78                  | 78                     | 78   | 78  |                                   |                                  |
| 1991 | 85   | 85                  | 85                     | 85   | 85  |                                   |                                  |
| 1992 | 91   | 91                  | 91                     | 91   | 91  |                                   |                                  |
| 1993 | 85   | 85                  | 85                     | 85   | 85  |                                   |                                  |
| 1994 | 77   | 77                  | 77                     | 77   | 77  |                                   |                                  |
| 1995 | 87   | 87                  | 87                     | 87   | 87  | 87                                | 74                               |
| 1996 | 80   | 80                  | 80                     | 80   | 80  |                                   |                                  |
| 1997 | 99   | 100                 | 100                    | 100  | 100   |                                   |                                  |
| 1998 | 95   | 95                  | 95                     | 95   | 95  |                                   |                                  |
| 1999 | 99   | 99                  | 99                     | 99   | 99  |                                   |                                  |
| 2000 | 99   | 100                 | 100                    | 100  | 100   |                                   |                                  |
| 2001 | 99   | 100                 | 100                    | 100  | 100   |                                   |                                  |
| 2002 | 96   | 96                  | 96                     | 96   | 97  |                                   |                                  |
| 2003 | 99   | 100                 | 100                    | 100  | 100   |                                   |                                  |
| 2004 | 99   | 100                 | 100                    | 100  | 100   |                                   |                                  |
| 2005 | 99   | 100                 | 100                    | 100  | 100   |                                   |                                  |
| 2006 | 99   | 100                 | 100                    | 100  | 100   |                                   |                                  |
| 2007 | 99   | 100                 | 100                    | 100  | 100   |                                   |                                  |
| 2008 | 99   | 99                  | 99                     | 99   | 99  |                                   |                                  |

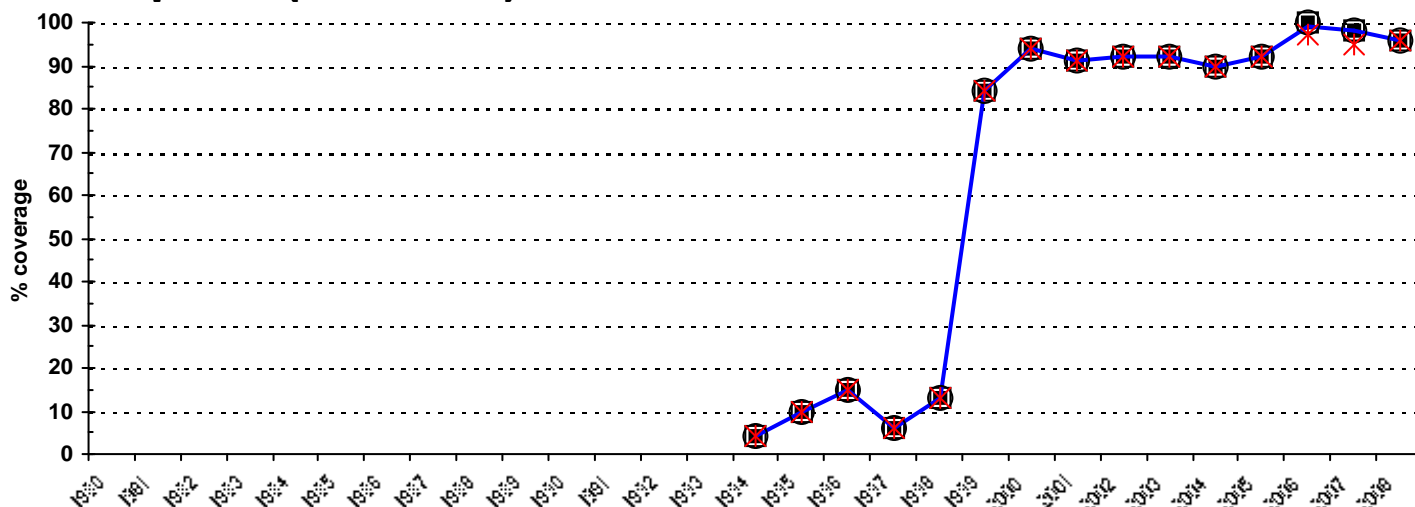
\*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

\*\*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.

# Brazil

## HepB3 (1980-2008)



### Description of trend

Hepatitis B vaccine was introduced nationally in 1998. Estimated immunization coverage levels are based on reported data. WHO/UNICEF recommend conducting a high quality survey to verify reported levels of coverage.

### Data presented in chart

| Year | WHO/<br>UNICEF<br>estimate<br>(%) | Reported to:*   |                    | Government<br>official<br>estimate<br>(%) | Reported<br>doses<br>administered<br>(%)** | Survey data (%)***             |                              |
|------|-----------------------------------|-----------------|--------------------|---|--|--------------------------------|------------------------------|
|      |                                   | WHO<br>(%)<br>□ | UNICEF<br>(%)<br>■ |   |  | Survey<br>12-23<br>months<br>▮ | Survey<br><12<br>months<br>+ |
| 1980 |                                   |                 |                    |   |  |                                |                              |
| 1981 |                                   |                 |                    |   |  |                                |                              |
| 1982 |                                   |                 |                    |   |  |                                |                              |
| 1983 |                                   |                 |                    |   |  |                                |                              |
| 1984 |                                   |                 |                    |   |  |                                |                              |
| 1985 |                                   |                 |                    |   |  |                                |                              |
| 1986 |                                   |                 |                    |   |  |                                |                              |
| 1987 |                                   |                 |                    |   |  |                                |                              |
| 1988 |                                   |                 |                    |   |  |                                |                              |
| 1989 |                                   |                 |                    |   |  |                                |                              |
| 1990 |                                   |                 |                    |   |  |                                |                              |
| 1991 |                                   |                 |                    |   |  |                                |                              |
| 1992 |                                   |                 |                    |   |  |                                |                              |
| 1993 |                                   |                 |                    |   |  |                                |                              |
| 1994 | 4                                 | 4               | 4                  | 4   | 4  |                                |                              |
| 1995 | 10                                | 10              | 10                 | 10  | 10   |                                |                              |
| 1996 | 15                                | 15              | 15                 | 15  | 15   |                                |                              |
| 1997 | 6                                 | 6               | 6                  | 6   | 6  |                                |                              |
| 1998 | 13                                | 13              | 13                 | 13  | 13   |                                |                              |
| 1999 | 84                                | 84              | 84                 | 84  | 84   |                                |                              |
| 2000 | 94                                | 94              | 94                 | 94  | 94   |                                |                              |
| 2001 | 91                                | 91              | 91                 | 91  | 91   |                                |                              |
| 2002 | 92                                | 92              | 92                 | 92  | 92   |                                |                              |
| 2003 | 92                                | 92              | 92                 | 92  | 92   |                                |                              |
| 2004 | 90                                | 90              | 90                 | 90  | 90   |                                |                              |
| 2005 | 92                                | 92              | 92                 | 92  | 92   |                                |                              |
| 2006 | 99                                | 100             | 100                | 100                                       | 97   |                                |                              |
| 2007 | 98                                | 98              | 98                 | 98  | 95   |                                |                              |
| 2008 | 96                                | 96              | 96                 | 96  | 96   |                                |                              |

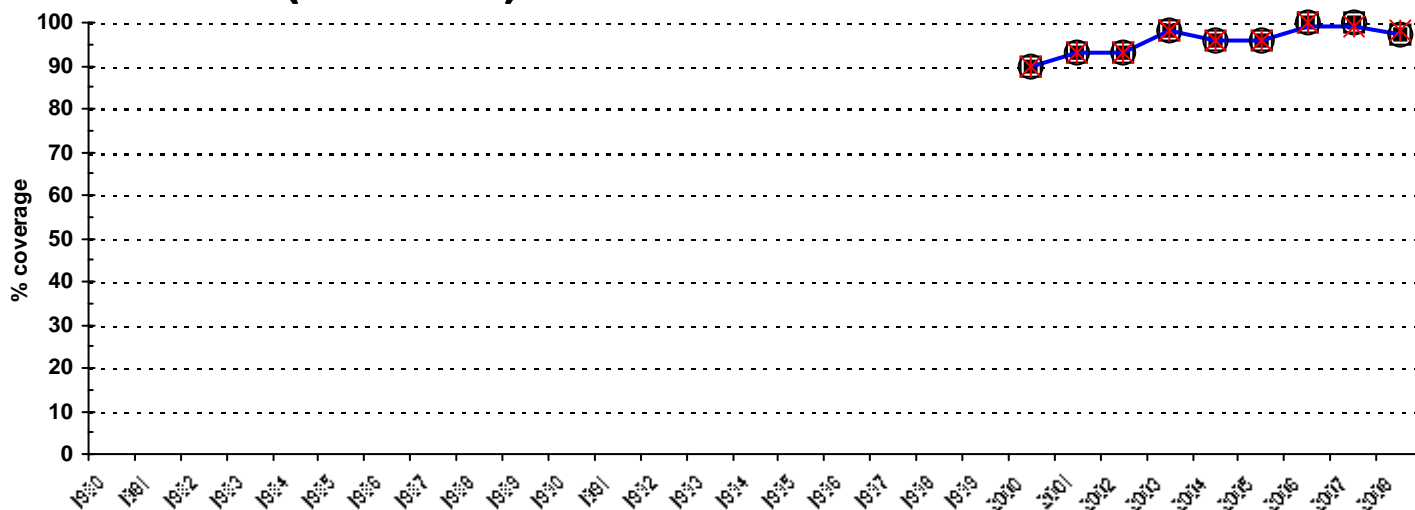
\*Prior to 1998 national reports to WHO/UNICEF did not specify whether information was derived from administrative records, surveys or other sources.

\*\*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.

# Brazil

## Hib3 (1980-2008)



### Description of trend

Hib vaccine was introduced in 1999. Estimated immunization coverage levels are based on reported data. WHO/UNICEF recommend conducting a high quality survey to verify reported levels of coverage.

### Data presented in chart

| Year | WHO/<br>UNICEF<br>estimate<br>(%)<br><br>— | Reported to:*       |                        | Government<br>official<br>estimate<br>(%)<br><br>○ | Reported<br>doses<br>administered<br>(%)**<br><br>✕ | Survey data (%)***                |                                  |
|------|--|---------------------|------------------------|--|---|-----------------------------------|----------------------------------|
|      |  | WHO<br>(%)<br><br>□ | UNICEF<br>(%)<br><br>■ |  |   | Survey<br>12-23<br>months<br><br> | Survey<br><12<br>months<br><br>+ |
| 1980 |  |                     |                        |  |   |                                   |                                  |
| 1981 |  |                     |                        |  |   |                                   |                                  |
| 1982 |  |                     |                        |  |   |                                   |                                  |
| 1983 |  |                     |                        |  |   |                                   |                                  |
| 1984 |  |                     |                        |  |   |                                   |                                  |
| 1985 |  |                     |                        |  |   |                                   |                                  |
| 1986 |  |                     |                        |  |   |                                   |                                  |
| 1987 |  |                     |                        |  |   |                                   |                                  |
| 1988 |  |                     |                        |  |   |                                   |                                  |
| 1989 |  |                     |                        |  |   |                                   |                                  |
| 1990 |  |                     |                        |  |   |                                   |                                  |
| 1991 |  |                     |                        |  |   |                                   |                                  |
| 1992 |  |                     |                        |  |   |                                   |                                  |
| 1993 |  |                     |                        |  |   |                                   |                                  |
| 1994 |  |                     |                        |  |   |                                   |                                  |
| 1995 |  |                     |                        |  |   |                                   |                                  |
| 1996 |  |                     |                        |  |   |                                   |                                  |
| 1997 |  |                     |                        |  |   |                                   |                                  |
| 1998 |  |                     |                        |  |   |                                   |                                  |
| 1999 |  |                     |                        |  |   |                                   |                                  |
| 2000 | 90   | 90                  | 90                     | 90   | 90  |                                   |                                  |
| 2001 | 93   | 93                  | 93                     | 93   | 93  |                                   |                                  |
| 2002 | 93   | 93                  | 93                     | 93   | 93  |                                   |                                  |
| 2003 | 98   | 98                  | 98                     | 98   | 98  |                                   |                                  |
| 2004 | 96   | 96                  | 96                     | 96   | 96  |                                   |                                  |
| 2005 | 96   | 96                  | 96                     | 96   | 96  |                                   |                                  |
| 2006 | 99   | 100                 | 100                    | 100  | 100   |                                   |                                  |
| 2007 | 99   | 100                 | 100                    | 100  | 99  |                                   |                                  |
| 2008 | 97   | 97                  | 97                     | 97   | 98  |                                   |                                  |

\*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.

# Brazil

## Details Survey Data

### Year Source

| Antigen  | Confirmation method | % coverage | Compliance with schedule | Age group | Sample size | % cards seen | Survey year | Comments |
|--|---------------------|------------|--------------------------|-----------|-------------|--------------|-------------|----------|
| <b>1995 <i>Brasil, Pesquisa Nacional Sobre Demografia e Saúde 1996, 1997</i></b> |                     |            |                          |           |             |              |             |          |
| BCG  | Card or History     | 92.6       |                          | 12-23 m   | 934         | 78.9         | 1996        |          |
| BCG  | C or H <12 month    | 90         |                          | 12-23 m   | 934         | 78.9         | 1996        |          |
| BCG  | C or H <12 month    | 91.3       |                          | 24-35 m   | 919         | 75.3         | 1996        |          |
| BCG  | C or H <12 month    | 89.1       |                          | 36-47 m   | 944         | 73.1         | 1996        |          |
| BCG  | C or H <12 month    | 82.7       |                          | 48-59 m   | 887         | 67.8         | 1996        |          |
| DTP1   | Card or History     | 94.7       |                          | 12-23 m   | 934         | 78.9         | 1996        |          |
| DTP1   | C or H <12 month    | 93.5       |                          | 12-23 m   | 934         | 78.9         | 1996        |          |
| DTP1   | C or H <12 month    | 94.1       |                          | 24-35 m   | 919         | 75.3         | 1996        |          |
| DTP1   | C or H <12 month    | 91.6       |                          | 36-47 m   | 944         | 73.1         | 1996        |          |
| DTP1   | C or H <12 month    | 88.3       |                          | 48-59 m   | 887         | 67.8         | 1996        |          |
| DTP3   | Card or History     | 80.8       |                          | 12-23 m   | 934         | 78.9         | 1996        |          |
| DTP3   | C or H <12 month    | 74.8       |                          | 12-23 m   | 934         | 78.9         | 1996        |          |
| DTP3   | C or H <12 month    | 69.4       |                          | 24-35 m   | 919         | 75.3         | 1996        |          |
| DTP3   | C or H <12 month    | 71.6       |                          | 36-47 m   | 944         | 73.1         | 1996        |          |
| DTP3   | C or H <12 month    | 65.8       |                          | 48-59 m   | 887         | 67.8         | 1996        |          |
| Pol3   | Card or History     | 80.7       |                          | 12-23 m   | 934         | 78.9         | 1996        |          |
| Pol3   | C or H <12 month    | 73.4       |                          | 12-23 m   | 934         | 78.9         | 1996        |          |
| Pol3   | C or H <12 month    | 70.6       |                          | 24-35 m   | 919         | 75.3         | 1996        |          |
| Pol3   | C or H <12 month    | 68.5       |                          | 36-47 m   | 944         | 73.1         | 1996        |          |
| Pol3   | C or H <12 month    | 62.8       |                          | 48-59 m   | 887         | 67.8         | 1996        |          |
| MCV  | Card or History     | 87.2       |                          | 12-23 m   | 934         | 78.9         | 1996        |          |
| MCV  | C or H <12 month    | 74.2       |                          | 12-23 m   | 934         | 78.9         | 1996        |          |
| MCV  | C or H <12 month    | 71.6       |                          | 24-35 m   | 919         | 75.3         | 1996        |          |
| MCV  | C or H <12 month    | 69.9       |                          | 36-47 m   | 944         | 73.1         | 1996        |          |
| MCV  | C or H <12 month    | 66.9       |                          | 48-59 m   | 887         | 67.8         | 1996        |          |

### 1985 *Demographic and Health Surveys Comparative Studies No. 1, Immunization, Boerma et al., Institute for Resource Development/Macro Systems, 1990*

|      |                  |    |  |         |     |      |      |  |
|------|------------------|----|--|---------|-----|------|------|--|
| BCG  | C or H <12 month | 65 |  | 12-23 m | 578 | 73.9 | 1986 |  |
| DTP1 | Card or History  | 85 |  | 12-23 m | 578 | 73.9 | 1986 |  |
| DTP1 | C or H <12 month |    |  | 12-23 m | 578 | 73.9 | 1986 |  |
| DTP3 | C or H <12 month | 60 |  | 12-23 m | 578 | 73.9 | 1986 |  |
| Pol3 | C or H <12 month | 64 |  | 12-23 m | 578 | 73.9 | 1986 |  |
| MCV  | C or H <12 month | 64 |  | 12-23 m | 578 | 73.9 | 1986 |  |

### 1985 *Pesquisa Nacional sobre Saude Materno-Infantil e Planejamento Familiar 1986, 1987*

|      |                 |      |  |         |     |      |      |  |
|------|-----------------|------|--|---------|-----|------|------|--|
| BCG  | Card or History | 70.2 |  | 12-23 m | 578 | 73.9 | 1986 |  |
| DTP3 | Card or History | 68.9 |  | 12-23 m | 578 | 73.9 | 1986 |  |
| Pol3 | Card or History | 74.1 |  | 12-23 m | 578 | 73.9 | 1986 |  |
| MCV  | Card or History | 79.4 |  | 12-23 m | 578 | 73.9 | 1986 |  |

## **Brazil**

### **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.

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<sup>1</sup> 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.

## Brazil

| Year | PAB coverage estimate (%) |
|------|---------------------------|
| 1980 |                           |
| 1981 |                           |
| 1982 |                           |
| 1983 |                           |
| 1984 |                           |
| 1985 |                           |
| 1986 |                           |
| 1987 | 56                        |
| 1988 | 59                        |
| 1989 | 62                        |
| 1990 | 63                        |
| 1991 | 64                        |
| 1992 | 68                        |
| 1993 | 71                        |
| 1994 | 75                        |
| 1995 | 78                        |
| 1996 | 81                        |
| 1997 | 83                        |
| 1998 | 86                        |
| 1999 | 89                        |
| 2000 | 92                        |
| 2001 | 92                        |
| 2002 | 65                        |
| 2003 | 76                        |
| 2004 | 78                        |
| 2005 | 67                        |
| 2006 | 92                        |
| 2007 | 92                        |
| 2008 | 92                        |