



# Global Immunization Data

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## Summary: Global immunization coverage in 2006

Based on the latest World Health Organization (WHO)/UNICEF global estimates for 2006, trends related to global vaccination coverage continue to be positive.

Immunization currently averts more than 2.5 million deaths every year in all age groups from diphtheria, tetanus, pertussis (whooping cough), and measles.

## More countries achieve high levels of vaccination coverage

Two regions, the Americas and Europe, maintained over 90% immunization coverage, and for the first time, the Western Pacific achieved 92% immunization coverage while the Eastern Mediterranean region reached 86%.

Number of countries reaching 90% or more immunization coverage with three doses of diphtheria-tetanus-pertussis (DTP3) in 2006: 114 countries compared to 112 in 2005.

Countries reaching over 80% DTP3 coverage continue to increase: 154 countries in 2006 compared to 150 in 2005.

## Increasing uptake of underused vaccines

**Hepatitis B vaccine** for infants was introduced in 164 countries (163 in the entire country and India in part of the country) by the end of 2006, up from 158 countries in 2005. Global coverage is estimated at 60% and is as high as 89% in the Americas. This contrasts with 28% in the South-East Asian Region and 49% in the African Region.

**Haemophilus influenzae type B (Hib) vaccine** was introduced in 108 countries (104 in the entire country and four in part of the country) by the end of 2006, up from 100 countries in 2005. Global Hib vaccine coverage is estimated at 22% in 2006, reaching 92% in the Americas, but only 24% in Africa. Bangladesh is the first South-East Asian country that has decided to introduce Hib vaccine.

**Rubella vaccine** was introduced in routine immunization programmes in 123 countries by the end of 2006, up from 65 countries in 1996. There has been remarkable progress towards the elimination of rubella and congenital rubella syndrome in the Americas Region with a reduction of 98% of confirmed cases between 1998 and 2006.

**Yellow fever vaccine** was introduced in routine infant immunization programmes in 33 countries and territories out of the 44 at risk for yellow fever in Africa and the Americas. Yellow fever vaccination coverage in countries that have introduced the vaccine increased to 76% in 2006 from 60% in 2004.

**Maternal and neonatal tetanus vaccine** was introduced in 104 countries by the end of 2006. Vaccination coverage with at least two doses of tetanus toxoid vaccine or tetanus-diphtheria toxoid vaccine was estimated at 69% in 2006 and an estimated 81% of newborns were protected against neonatal tetanus through immunization.

## The unprotected children

Number of children under one year of age who did not receive DTP3: 26.3 million in 2006 compared to 28.1 million in 2005.

Seventy-five percent of these children live in ten countries--India, Nigeria, Indonesia, China, Ethiopia, Pakistan, Democratic Republic of Congo, Bangladesh, Angola and Niger.

## Deaths due to vaccine-preventable diseases

Total number of children who died in 2002 from diseases preventable by vaccines currently recommended by WHO, plus diseases for which vaccines are expected soon: 2.5 million.<sup>b</sup>

Estimated number of deaths in all age groups from diseases preventable by vaccines currently recommended by the WHO in 2002: 2.1 million.

- Measles: 610 000<sup>a</sup>
- Hepatitis B: 600 000<sup>a</sup>
- *Haemophilus influenzae* type b (Hib): 386 000<sup>a</sup>
- Pertussis: 294 000<sup>a</sup>
- Tetanus: 213 000<sup>a</sup>
- Other (polio, diphtheria, yellow fever): 36 000<sup>a</sup>

Estimated number of deaths in children under age five from diseases preventable by vaccines currently recommended by WHO in 2002: 1.4 million.

- Measles: 540 000<sup>b</sup>
- Hib: 386 000<sup>b</sup>
- Pertussis: 294 000<sup>b</sup>
- Neonatal tetanus: 180 000<sup>b</sup>
- Tetanus (non-neonatal): 18 000<sup>b</sup>
- Other (polio, diphtheria, yellow fever): 19 000<sup>b</sup>

Estimated number of deaths due to rotavirus, meningococcus and pneumococcus in 2002: 2.1 million, of which 1.1 million were children.

- Pneumococcal disease: 1 612 000, of which 716 000 under age five
- Meningococcal disease: 26 000, of which 10 000 under age five
- Rotavirus: 449 000, of which 402 000 under age five

## Diphtheria-tetanus-pertussis (DTP)

Global coverage of infants in 2006 with DTP3 vaccine: 79%.<sup>c</sup>

Global coverage of infants in 1980 with DTP3 vaccine: 20%.<sup>c</sup>

Estimated number of children vaccinated with DTP3 in 2006: 102 million.<sup>c</sup>

Number of countries that achieved more than 80% DTP3 vaccine coverage in all districts: 55 (28%).<sup>c</sup>

Number of countries that achieved 90% or more DTP3 vaccine coverage in 2006: 114 (59%).<sup>c</sup>

## Polio

Global coverage of infants with three doses of polio vaccine in 2006: 80%.<sup>c</sup>

Global coverage of infants with three doses of polio vaccine in 1980: 22%.<sup>c</sup>

Reported number of polio cases in 2006: 2000 confirmed polio cases (including 1997 wild virus confirmed cases).<sup>f</sup>

Estimated number of polio cases in 1988: 350 000.

Number of polio-endemic countries in 2006: 4.

Number of polio-endemic countries in 1988: 125.

## Measles

Global coverage of children by their second birthday with one dose of measles-containing vaccine in 2006: 80%.<sup>c</sup>

Global coverage of children by their second birthday with one dose of measles-containing vaccine in 1980: 16%.<sup>c</sup>

Number of countries in which a second opportunity for measles immunization was provided in 2006: 178 (92% of 193 countries).<sup>d</sup>

Number of estimated measles deaths in 2006: 242 000 [173 000 - 325 000]\*, of which 217 000 [155 000 - 292 000]\* were under age five.<sup>g</sup>

## Maternal and neonatal tetanus (MNT)

Number of countries that had not yet eliminated MNT in 1994: 82.<sup>d</sup>

Number of countries that had not yet eliminated MNT in 2006: 49.<sup>d</sup>

Estimated number of pregnant women who remained in need of immunization against maternal tetanus in 2004: 40 million.<sup>d</sup>

Number of women living in high-risk areas protected with at least two doses of tetanus toxoid vaccine given during Supplementary Immunization Activities (1999-2006): 73 million.<sup>e</sup>

## Hepatitis B

Global coverage of infants with three doses of hepatitis B vaccine in 2006: 60%.<sup>c</sup>

Global coverage of infants with three doses of hepatitis B vaccine in 1992: 3%.<sup>c</sup>

## Yellow Fever

Global yellow fever vaccine coverage in 2006: 48% (includes only the 44 countries at risk).<sup>d</sup>

## Other

Number of countries that integrated rubella vaccine into their national immunization schedule by 2006: 123.<sup>d</sup>

Number of countries that integrated mumps vaccine into their national immunization schedule by 2006: 112.<sup>d</sup>

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**Notes:**

All numbers referring to deaths are rounded to the nearest thousand (000). Only measles deaths estimates are currently available for 2006.

WHO has 193 Member States.

\* Estimates of the uncertainty intervals have been made by assuming a probability distribution around the immunization coverage, vaccine efficacy, age-specific distributions of cases, and age-specific case-fatality rates. From these distributions 10 000 simultaneous samples of the parameter values were drawn and the estimate of deaths re-calculated. The uncertainty intervals represent the interval within which 95% of all 10 000 sample mortality estimates occurred.

**Sources:**

<sup>a</sup> WHO Department of Immunization, Vaccines and Biologicals estimates for vaccine-preventable deaths for the year 2002 (latest available data).

<sup>b</sup> WHO Department of Immunization, Vaccines and Biologicals estimates for under-five child deaths for the year 2002 (latest available data).

<sup>c</sup> WHO/UNICEF immunization coverage estimates, data as of August 2007.

<sup>d</sup> WHO Department of Immunization, Vaccines and Biologicals data as of September 2007 .

<sup>e</sup> WHO/UNICEF MNT collected data as of September 2007.

<sup>f</sup> Polio Eradication programme data as of 10 October 2007.

<sup>g</sup> WHO/UNICEF measles mortality estimates, data as of August 2007.

**More information**, including more detailed immunization data and graphs, can be found at [http://www.who.int/immunization\\_monitoring/data/en/](http://www.who.int/immunization_monitoring/data/en/)