

World Malaria Report 2011

Briefing on Revised Estimates of Cases and Deaths

The *World Malaria Report 2011* contains updated estimates of the number of case and deaths by WHO region and globally. The methods used are the same as in the *World Malaria Report 2010*, but the final number of deaths estimated for 2010 (655,000) is much lower than that estimated in last years report (781,000 for 2009). This note provides further information on the revised estimates and some explanation of the difference with previous estimates.

The *World Malaria Report 2011* only presents estimates cases and deaths for 2010, although estimates for previous years were also calculated. The updated numbers for years 2000-2010 are presented overleaf.

The estimates of number of cases are similar to those published in WMR 2010 but some adjustments have been made according to feedback from the country consultations and because of updated country reports, household surveys or population estimates.

The estimates of the number of deaths outside Africa are also similar to those published in WMR 2010 but those for the WHO African Region are substantially different. This is for two reasons:

- (i) A downward revision of the total number of child deaths occurring globally made by the UN Inter-agency Group for Child Mortality Estimation (I).
- (ii) Changes in the assignment in cause of death made by the Child Health Epidemiology Reference Group (CHERG), that affected the proportion of deaths attributed to malaria, particularly at the beginning of the last decade.

These methodological changes resulted in an overall lowering of the number of malaria deaths in the African Region of approximately 11% for 2009 and larger percentages in earlier years. A notable feature of the new estimates is that the number of deaths estimated to occur in the African Region rose from 682,000 in 2000 to 748,000 in 2004, in line with population growth, before they began to come down owing to a scale up of control activities. This pattern is consistent with changes in the estimated number of cases.

While the number of deaths rose between 2000 and 2004 the risk of death - or malaria mortality rate - remained relatively constant until 2004 and has decreased continuously between 2005 and 2010 with more pronounced decreases in more recent years. Malaria mortality rates decreased by 25% worldwide between 2000 and 2010 and by 33% in the WHO African Region.

Reference

1. UN Inter-agency Group for Child Mortality Estimation. Levels and trends in Child Mortality: Report 2010. http://www.childinfo.org/files/Child_Mortality_Report_2011.pdf

Table 1. Estimated malaria cases and deaths

Number of cases (000's)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% reduction since 2000
Africa	175 000	179 000	183 000	188 000	190 000	191 000	189 000	187 000	182 000	179 000	174 000	1%
Americas	2 500	2 000	1 800	1 800	1 700	1 900	1 600	1 300	1 000	1 100	1 100	56%
Eastern Mediterranean	10 000	9 000	9 000	11 000	8 000	8 000	8 000	10 000	11 000	11 000	10 000	0%
Europe	37.9	28	24	19	11	6	3.1	1.4	0.7	0.3	0.2	99%
South-East Asia	33 000	32 000	30 000	31 000	32 000	33 000	29 000	28 000	29 000	30 000	28 000	15%
Western Pacific	3 000	2 600	2 300	2 600	2 900	2 400	2 600	2 100	1 800	2 000	2 000	33%
World	223 000	225 000	226 000	233 000	235 000	237 000	231 000	229 000	225 000	222 000	216 000	3%
Lower bound	170 000	172 000	173 000	175 000	177 000	181 000	172 000	169 000	165 000	163 000	149 000	
Upper bound	297 000	301 000	304 000	310 000	316 000	319 000	310 000	304 000	298 000	292 000	274 000	

Number of deaths	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% reduction since 2000
Africa	682 000	705 000	726 000	740 000	748 000	740 000	727 000	701 000	654 000	630 000	596 000	13%
Americas	2 300	2 000	1 500	1 500	1 600	1 800	1 500	1 300	1 000	1 200	1 200	48%
Eastern Mediterranean	17 000	17 000	18 000	17 000	16 000	16 000	16 000	16 000	15 000	16 000	15 000	12%
Europe	3	4	2	1	1	1	0	0	0	-	-	100%
South-East Asia	46 000	41 000	37 000	36 000	38 000	39 000	32 000	33 000	37 000	39 000	38 000	17%
Western Pacific	7 300	6 100	5 500	6 200	6 800	5 100	5 500	4 700	4 200	4 700	4 600	37%
World	755 000	771 000	789 000	801 000	810 000	801 000	782 000	756 000	711 000	691 000	655 000	13%
Lower bound	575 000	588 000	600 000	612 000	625 000	621 000	607 000	597 000	567 000	554 000	539 000	
Upper bound	969 000	992 000	1 018 000	1 034 000	1 053 000	1 045 000	1 023 000	992 000	944 000	932 000	906 000	

Table 2. Estimated malaria incidence and mortality rates

Cases per 1,000 at risk	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% reduction since 2000
Africa	321	320	319	318	315	308	297	286	271	259	246	23%
Americas	18	14	13	12	12	13	11	9	7	7	7	60%
Eastern Mediterranean	41	37	35	40	29	29	29	35	36	37	33	19%
Europe	16	12	10	8	5	2	1	1	0	0	0	100%
South-East Asia	30	29	26	27	27	28	24	23	24	24	22	25%
Western Pacific	4	3	3	3	4	3	3	2	2	2	2	38%
World	79	78	77	78	78	77	74	72	70	68	65	17%

Deaths per 100,000 at risk	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% reduction since 2000
Africa	125.1	126.0	126.5	125.5	123.7	119.1	114.0	107.2	97.4	91.5	84.3	33%
Americas	1.6	1.4	1.0	1.0	1.1	1.2	1.0	0.8	0.6	0.8	0.7	55%
Eastern Mediterranean	7.1	6.8	7.0	6.5	5.8	5.7	5.6	5.7	5.2	5.5	4.9	31%
Europe	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99%
South-East Asia	4.2	3.7	3.3	3.1	3.2	3.2	2.7	2.7	3.0	3.1	3.0	29%
Western Pacific	0.9	0.8	0.7	0.8	0.8	0.6	0.7	0.6	0.5	0.6	0.5	42%
World	26.6	26.8	26.9	26.9	26.8	26.1	25.1	23.9	22.1	21.2	19.8	26%