

# Preventable infectious diseases caused almost two-thirds of global child under-5 deaths in 2010

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In 2010, preventable infectious diseases were responsible for almost two-thirds of the 7.6 million deaths of children under five worldwide, according to new estimates published Online First in *The Lancet*. Although child deaths have declined by 26% (2 million) since 2000, and despite major reductions in some of the leading causes of death (diarrhoea, pneumonia, and measles), few countries are going to achieve international targets for improving child survival with less than 3 years before the 2015 deadline for Millennium Development Goal (MDG) 4\*. Indeed, only tetanus, measles, and HIV/AIDS have declined sufficiently to meet MDG4, yet they account for just a small fraction of global under 5 mortality.

"In the past decade, the country-specific under-5 mortality rate reduced at an average rate of 2.6% per year, which is less than 4.4% of the annual rate of decrease needed to reach MDG4", explains Robert Black from John Hopkins Bloomberg School of Public Health in the USA, lead author of the study. "The attainment of MDG4 is possible only if life-saving maternal, newborn, and child [health interventions](#) are rapidly scaled up in high-burden regions and countries and across major causes in the next few years."

In this study, Black and colleagues used vital registration systems, household surveys, verbal autopsy, and multi-cause models to assess data for 193 countries to estimate the causes of [death](#) of children younger than 5 years for 2010 by country, region, and globally, and present time trends since 2000 to monitor progress towards MDG4.

They found that two-fifths of deaths occurred within the first month of life, with preterm birth second only to pneumonia as the leading cause of child death in 2010, "indicating the crucial importance of

the reduction of [neonatal deaths](#) if countries are to achieve MDG4."

In 2010, a third of deaths in children younger than 5 years occurred in southeast Asia and half in Africa. A striking 73% (2.6 million) of all [child deaths](#) in Africa were due to infectious causes, including 96% of all deaths due to malaria and 90% due to AIDS. In comparison, neonatal causes were the leading cause of death (1.096 million deaths) in southeast Asia.

Five countries (India, Nigeria, Pakistan, Democratic Republic of Congo, and China) accounted for almost half (3.754 million) of deaths in children younger than 5 worldwide, and contributed to half the deaths from infections (2.440 million) and more than half (1.636 million) the deaths due to neonatal causes.

The authors conclude: "Across all the previous and current rounds of causes of childhood death estimation, pneumonia and preterm birth complications consistently rank as the leading causes at the global level. Africa and southeast Asia are repeatedly the regions with the most deaths in children younger than 5 years. Our trend analysis shows that accelerated reductions are needed in the two major causes and in the two high-burden regions to achieve MDG4 by 2015."

In an accompanying Comment, Zulfiqar Bhutta from The Aga Khan University, Karachi, Pakistan says: "Too much emphasis has been placed in recent years on global numbers and mortality, and less on understanding the determinants and direction of trends. Annual diarrhoeal deaths in children might well have fallen to less than 800 000 during the past two decades, but these trends are mostly indicative of gains in large countries such as China, Brazil, and India; and the overall incidence of

diarrhoeal disorders has hardly changed."

He adds: "Do mere numbers and proportions give sufficient detail about the causes of mortality—such as distribution of deaths by residence or indeed place of death? Estimations from a national mortality survey in 2006 in Pakistan suggest that more than two-thirds of all deaths in children younger than 5 years took place at home, the majority after seeing a health professional."

**More information:** "Global, regional, and national causes of child mortality: an updated systematic analysis for 2010 with time trends since 2000."

Paper online: [www.thelancet.com/journals/lan ...](http://www.thelancet.com/journals/lan...)  
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