

# New PLOS collection: Child mortality estimation methods

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Child mortality is a key indicator not only of child health and nutrition but also of the implementation of child survival interventions and, more broadly, of social and economic development. Millennium Development Goal 4 calls for a two thirds reduction in the under-five mortality rate between 1990 and 2015. With the renewed focus on child survival, tracking of progress in the reduction of child mortality is increasingly important. A sponsored collection of new articles on the methodology for estimation of child mortality was published today in the open-access journal *PLOS Medicine*, in conjunction with the UN Inter-agency Group for Child Mortality Estimation (IGME) and the Technical Advisory Group (TAG). The collection contains seven peer reviewed articles and introduces the methodological innovations by the TAG and UN IGME in estimating child mortality which are critical to the monitoring of progress toward the MDG goal.

With the guidance of the TAG on estimation methods, technical issues and strategies for data analysis and data [quality assessment](#), the UN IGME produces updates of under-five, infant (under 1 year) and neonatal (under 1 month) mortality levels and trends each year for all UN member states. These evidence-based estimates are necessary for planning national and [global health](#) strategies and policies.

Key methodology described in this collection, which will inform estimates in future, include: methods used to adjust for bias due to AIDS; determination of appropriate time periods over which [child mortality](#) estimates should be made; the use of full and summary birth

histories in the estimation of mortality; assessment of how mortality estimates made by two different groups can differ; estimation of [sex differences](#) in [childhood mortality](#); and methodology to determine what proportion of under-five mortality occurs below age one compared with at age one and above.

The most recent estimates show that though there is a decline in the number of under-five deaths each year in every region of the world there are huge variations between countries in the rate of reduction. For example, while Northern Africa has already achieved a two-thirds reduction in the under-five mortality rate (the probability of dying between birth and age 5, also denoted in the literature as U5MR and 5q0), sub-Saharan Africa's U5MR has only fallen by around a third and many countries in the region still have an U5MR of at least 100 deaths per 1,000 live births. More positively, the rate at which the level of under-five mortality declines each year in sub-Saharan Africa is accelerating, and doubled in the last decade compared to the 1990s.

Nevertheless, if recent trends continue, developing regions may not reach the MDG-4 target until 2038, and will not reach the U5MR of developed countries until after 2100. As the authors state, "These findings indicate that a more concerted effort is needed to increase further the pace of progress...Progress must involve targeting the major killers of children, with about 36% of deaths of children under 5 in 2010 being caused by pneumonia, diarrhea and malaria. Effective interventions exist to prevent or treat all three conditions."

New UN IGME 2012 estimates are forthcoming and will be available at [www.childmortality.org](http://www.childmortality.org) in September.

**More information:** [www.ploscollections.org/childmortalityestimation](http://www.ploscollections.org/childmortalityestimation)

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