

Child mortality: the challenge for India and the world



Earlier this year, one of us took part in a policy dialogue about child health in Bangladesh. On being presented with evidence of increasing mortality among children younger than 5 years in parts of Bangladesh, a senior government official rightly enquired whether or not disaggregated (regional) cause of death data had been collected that could help explain this deviation from the national trend and guide responses. Sadly, our answer was “no”. That is exactly the kind of data gap that the work by the Million Death Study Collaborators¹ published in *The Lancet* was designed to address.

This nationally representative mortality study of 1.3 million homes presents data on changes in cause-specific neonatal and child mortality in India. The findings are not only important for India, but also unequivocally relevant for other low-income and middle-income countries as the world embarks on the ambitious Sustainable Development Goal (SDG) journey. With the second largest population in the world and being responsible for a fifth of the global deaths among children younger than 5 years,^{2,3} India's ability to avert these deaths will be crucial if the world is to achieve the SDG targets of ending preventable deaths of newborns and children younger than 5 years of age.⁴

India has one of the fastest growing large emerging economies in the world.⁵ Nevertheless, with persisting poverty and prevailing inequalities between urban and rural residents and between states,⁶ India needs to closely track progress with an equity lens and to prioritise interventions that address the major causes of deaths to ensure maximum and timely returns on investments. The data for cause-specific child mortality from the Million Death Study can play a part in this effort. Although a considerable volume of findings for causes of deaths among children younger than 5 years has become available in the more than 15 years since the Million Death Study started, this current Article¹ is notable for its analysis and presentation of mortality reduction trajectories over the last three 6-year periods by sex, residence (urban or rural), state type (richer or poorer), and cause and timing of death (neonatal and ages 1–59 months). Geographical and demographic disaggregation not only helps to unveil disparities usually masked by national averages, but also provides the evidence to address the specific

needs of disadvantaged groups. The Article¹ presents generally encouraging findings—speedier mortality declines in recent years (3.8% average annual decline in the neonatal mortality rate per 1000 livebirths during 2010–15 and 6.4% at ages 1–59 months) than in previous years (3.2% for neonates during 2000–05 and 4.5% for ages 1–59 months), narrowing gaps in mortality rates between 1–59-month-old girls and boys (54.2 per 1000 livebirths among girls in 2000 and 37.0 per 1000 livebirths among boys vs 21.2 per 1000 livebirths among girls in 2015 and 18.1 per 1000 livebirths among boys), and impressive declines in neonatal tetanus (94%) and 1–59-month measles (91%) mortality. Although these findings bode well for the future and the likelihood of achievement of SDG targets, we would warn against complacency as no reason exists to believe that the most recent rate of decline can be sustained without continued special efforts.

Why is that? Nearly 60% of deaths among children younger than 5 years in India in 2015 were among neonates—ie, in the first month of life.¹ Although slightly more rapid declines have occurred in neonatal mortality in India in recent years than in previous years, as the Million Death Study Collaborators mention, “India will need to maintain the current trajectory of 1–59-month mortality and accelerate declines in neonatal mortality”. This task is not easy, as so clearly illustrated by the increasing rate of low birthweight or preterm deaths, particularly in rural areas and poorer states.

Published Online
September 19, 2017
[http://dx.doi.org/10.1016/S0140-6736\(17\)32469-8](http://dx.doi.org/10.1016/S0140-6736(17)32469-8)
See Online/Articles
[http://dx.doi.org/10.1016/S0140-6736\(17\)32162-1](http://dx.doi.org/10.1016/S0140-6736(17)32162-1)



Vivek Prakash/Reuters

Reduction of newborn mortality holds the key for India and other high-burden countries in southeast Asia and sub-Saharan Africa.⁷ The large and sustained difference in mortality rates for those younger than 5 years and newborns between rural and urban areas of India should be a point of concern for other low-income and middle-income countries, especially those with large rural populations. Many of these countries lack the type of data, in terms of depth and duration (≥ 15 years), presented in this Article¹ and have to rely on globally modelled estimates, which are often not seen as strong and credible evidence. Preterm and low birthweight are the major causes of newborn deaths globally.^{7,8} Stagnant levels of preterm and low-birthweight deaths at around 12–14 per 1000 livebirths over a long period of time in India should be worrying, not only because they make achievement of SDG targets difficult for India, but also because similar situations might exist in other countries too. Interventions like Kangaroo Mother Care and specialised care for small newborn babies, which are key lifesaving interventions for preterm and low-birth-weight babies, are complex and need overall health system strengthening for effective implementation.^{9–11} Demand and supply side investments in these complex interventions in India and other low-income and middle-income countries with similar burden have been suboptimal.¹⁰ The stagnant rate of deaths due to injuries among 1–59-month-olds is likely to be due to the absence of attention to these deaths by the health-care system and researchers and could, thus, be a difficult problem to address.

The Million Death Study took more than 15 years and produced rich and diverse data and most would agree that it has informed public health policy and planning, particularly in India. As such surveys go, we understand that this study was inexpensive, primarily by being nested within the Sample Registration System. However, the total price tag, given the size of India and the more than 15 years' duration is likely to be high. This observation begs the question of what will

happen in the future. For India and other high-burden countries to achieve the SDGs, they will need to be able to track overall and cause-specific mortality rates. We agree with the Million Death Study Collaborators that their work reinforces the importance of direct measurement of causes of death. A national sentinel survey or surveillance system like the Million Death Study in India can be a model for other countries where vital registration systems are still too fragmented to adopt and adapt. Should the position not be taken that if countries are serious about achieving the SDGs, they must invest in and establish adequate methods to measure and track progress directly?

*Shams El Arifeen, Honorati Masanja,
Ahmed Ehsanur Rahman

Maternal and Child Health Division, International Centre for Diarrhoeal Disease Research, Bangladesh, Dhaka, Bangladesh (SEA, AER); and Ifakara Health Institute, Dar es Salaam, Tanzania (HM)
shams@icddr.org

We declare no competing interests.

- 1 Million Death Study Collaborators. Changes in cause-specific neonatal and 1–59-month child mortality in India from 2000 to 2015: a nationally representative survey. *Lancet* 2017; published online Sept 19. [http://dx.doi.org/10.1016/S0140-6736\(17\)32162-1](http://dx.doi.org/10.1016/S0140-6736(17)32162-1).
- 2 UNICEF. Levels and trends in child mortality: report 2015. New York: United Nations Children Fund, 2015.
- 3 You D, Hug L, Ejdemyr S, et al. Global, regional, and national levels and trends in under-5 mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Inter-agency Group for Child Mortality Estimation. *Lancet* 2015; **386**: 2275–86.
- 4 UN. Sustainable Development Goals. <http://www.un.org/sustainabledevelopment/> (accessed Aug 14, 2017).
- 5 Sander FG, Jain D, Seth S, et al. India development update: unlocking women's potential. New Delhi: World Bank, 2017.
- 6 Balarajan Y, Selvaraj S, Subramanian S. Health care and equity in India. *Lancet* 2011; **377**: 505–15.
- 7 Liu L, Oza S, Hogan D, et al. Global, regional, and national causes of child mortality in 2000–13, with projections to inform post-2015 priorities: an updated systematic analysis. *Lancet* 2015; **385**: 430–40.
- 8 Zhou M, Wang H, Zhu J, et al. Cause-specific mortality for 240 causes in China during 1990–2013: a systematic subnational analysis for the Global Burden of Disease Study 2013. *Lancet* 2016; **387**: 251–72.
- 9 Lawn JE, Davidge R, Paul VK, et al. Born too soon: care for the preterm baby. *Reprod Health* 2013; **10**: S5.
- 10 Vesel L, Bergh AM, Kerber KJ, et al. Kangaroo mother care: a multi-country analysis of health system bottlenecks and potential solutions. *BMC Pregnancy Childbirth* 2015; **15**: S5.
- 11 Moxon SG, Lawn JE, Dickson KE, et al. Inpatient care of small and sick newborns: a multi-country analysis of health system bottlenecks and potential solutions. *BMC Pregnancy Childbirth* 2015; **15**: S7.