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The millennium development goals and the inverse care law: no progress where it is most needed?

Cesar G Victora

In 2000, global leaders from 192 countries pledged to achieve eight millennium development goals, or MDGs (www.un.org/millenniumgoals). These goals include targets to be achieved in the period from 1990 to 2015, four of which relate directly to health. The first goal—eradicate poverty and hunger—has as one of its key targets the reduction by half of the proportion of children with low weight-for-age. The fourth MDG is to reduce the mortality of children under 5 years by two-thirds, and the fifth to reduce maternal mortality by three-quarters. Finally, the sixth MDG is to “combat HIV/AIDS, malaria and other diseases”. The other four MDGs are also relevant, as they address broader determinants of health, including universal education, gender equality, environmental sustainability and the need for global partnerships.

I will deal specifically with MDGs 4 and 5, the reduction in the mortality rate of children under 5 and maternal mortality. It is estimated that there are half a million maternal deaths and almost 10 million deaths of children under 5 every year.¹ In the closing paper of the *Lancet's* Child Survival Series published in 2003, we called for a mechanism to monitor progress in child survival and to hold countries and international partners accountable.² This resulted in an initiative, launched in 2005, which became known as “Countdown to 2015: Tracking Progress in Maternal, Neonatal and Child Survival”. Its second report came out earlier this year.³ Sixty-eight countries, selected either because of high absolute number of deaths or high maternal and child mortality rates, are being monitored. To achieve a two-thirds reduction in the mortality rate of children under 5 from 1990 to 2015, countries need an annual decline of roughly 4%.

Sixteen of the 68 focus countries are judged to be on track for reaching the MDG, according to the latest data available; 26 countries have made some progress, but are not moving sufficiently fast; another 26 seem to have made no progress at all, including 12 in which mortality rates appear to be increasing. It must be stressed that the data supporting these statements are often imprecise and outdated, and progress for many countries is being projected on the basis of surveys carried out some years in the past.⁴ Nevertheless, these are the best data currently available and serve to illustrate which countries are making progress and which ones are lagging behind.

The situation for maternal deaths is even more dramatic. Trends in maternal mortality to assess progress towards MDG 5 were simply not available for most countries. Regarding estimated levels of mortality, 56 of the 68 focus countries had ratios higher than 300 deaths per 1000 live births.⁵ The lifetime risk of death as a result of pregnancy or childbirth is about one in six women in the poorest parts of the world compared with one in 30 000 in Northern Europe.⁶

The bottom line from the trend analyses of child mortality is clear: most high-mortality countries are not moving fast enough. Figure 1 shows that the annual rate of reduction from 1990 to 2006 is inversely related to mortality levels in children under 5 in 1990. In other words, countries where mortality was already low at baseline are more likely to meet the goal than those with high mortality in 1990.

Sub-Saharan Africa now includes more than half of all maternal and child deaths in the world.³ Its annual rate of reduction in mortality in children under 5 is only 1%; this rate would have to increase to 10.5% a year from 2007 to 2015 to reach the MDG. The slow rate of decline remains in spite of the fact that cost-effective, low-tech interventions are available that, if delivered at universal coverage, could prevent two-thirds of

deaths in children under 5.⁷ In contrast, Latin America—where coverage with most interventions tends to be high—is averaging a 4.4% annual reduction, and in order to reach the goal must remain at approximately the same rate—4.3% per year.³

In his greatly influential essay published in 1971, Julian Tudor Hart⁸ proposed the existence of an “inverse care law”, stating that the availability of healthcare was inversely related to the health needs of the population. Recent progress, or lack thereof, towards MDG 4 once again confirms Hart’s law. However, rapid progress being made by countries such as Bangladesh and Tanzania^{5 9} suggests that countries where the political will is strong can rapidly reduce mortality by increasing coverage with cost-effective interventions.

Epidemiologists must play a larger role in addressing the health needs of low-income countries, particularly those in Sub-Saharan Africa, where the majority of maternal and child deaths now occur. A review of PubMed in the period 2003–7 resulted in about 17 000 articles with the term “epidemiology” as a keyword or in the abstract. Only 177, or 1.6%, of these had a first author whose primary affiliation was an institution from Sub-Saharan Africa. This imbalance is not only true for epidemiologists, but reflects the larger human resources crisis affecting the African health sector.¹⁰

There are many research questions that urgently need to be addressed in order to improve progress towards the health MDGs. For example, how can we simplify and scale up existing methods for real-time monitoring of mortality in populations where routine statistics are incomplete or unreliable? How can we best measure important proximate determinants of child mortality, for example low birth weight and preterm delivery, in settings where most births occur at home? How can we improve the assessment of socio-economic disparities in epidemiological studies and in routine statistics? What types of operational research are needed to support rapid scaling up of interventions while ensuring that quality is maintained? How can we best evaluate the effectiveness, under real-life implementation conditions, of new programmes aimed at reducing maternal and child mortality? In addition to these, there are many other questions that deserve our attention. The epidemiological and public health communities urgently need to stand up to these challenges. Our contribution is essential

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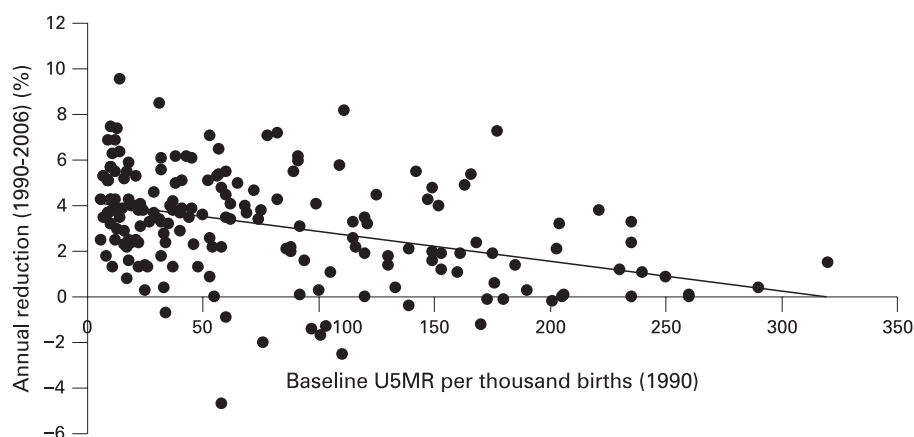


Figure 1 Annual reduction in the mortality rate in children under 5 (USMR), 1990–2006, according to the 1990 mortality level, for 191 countries.

for preventing the health gap between rich and poor countries from becoming even wider.

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