# Meeting MDG-5: an impossible dream?

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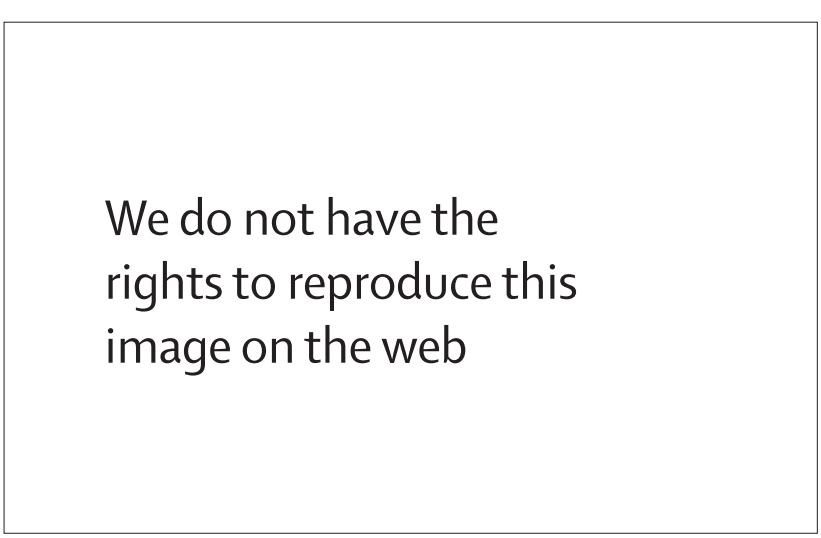
Reduction of the maternal mortality ratio by three-quarters by 2015 is the target for one of the eight Millennium Development Goals (MDGs) set by 189 countries in 2000. That this goal (MDG-5) is the one towards which the least progress has been made,[1] despite the launch nearly 20 years ago of the Safe Motherhood Initiative,[2] is widely acknowledged. Nonetheless, we believe that substantial progress can be achieved. Indeed, a 2003 World Bank report[3] on the success of several developing countries in (including China, Sri Lanka, and Malaysia) reducing maternal mortality rates concluded that "maternal mortality can be halved in developing countries every 7–10 years…regardless of income level and growth rate". To make real progress by 2015, substantial, flexible, medium-term funding for field programmes and related research is needed, with a clear focus on important programme elements, implemented with commitment to the crucial goal of strengthening national health systems.

Our optimism is based on what has been accomplished in the past few decades. The human rights implications of maternal deaths are now widely appreciated, forcing attention to be drawn not only to broader social injustice, but also to faltering, sometimes even abusive, health systems. A broad consensus exists about appropriate strategies to reduce rates of maternal mortality.[4,5] A growing body of data and practical tested tools are available to guide programmes.[6–10] And, most of all, action is finally being taken, as replication of successful projects gathers momentum across south Asia, sub-Saharan Africa, and parts of Latin America.

After considerable debate, a much more focused approach to the reduction of maternal deaths has taken shape. Different groups focus on different aspects—emergency obstetric care, skilled care by skilled attendants, unmet obstetric need—but all of them have at their core a recognition that without the ability to treat women with obstetric complications, maternal mortality cannot be substantially reduced.[11–13] Moreover, consensus is growing that these life-saving services should be integrated into the local health system to deliver continuous care from community education and services (which are especially important for neonatal health care and early intervention with misoprostol for postpartum haemorrhage) to the first referral facility for emergency obstetric care.

A crucial development during the past decade is the growth in the number of programme models available. In many developing countries, governments, non-governmental organisations, and international agencies are working together to upgrade existing governmental services. Major donors, such as the UK Department for International Development and the US Agency for International Development, have supported intensive projects in several countries, including Bolivia, the Dominican Republic, Egypt, Guatemala, Indonesia, Malawi, and Nepal. The largest coordinated network of projects, which use common strategies, indicators, and tools, are those that have received financial and technical support from Columbia University's Mailman School of Public Health, first under the Prevention of Maternal Mortality programme,[14] funded by the Carnegie Corporation, and then under the Averting Maternal Death and Disability programme, funded by the Bill & Melinda Gates Foundation. Between 1999 and 2005, more than 80 projects were supported by the Averting Maternal Death and Disability programme in more than 50 countries. These projects were in partnership with local governments and with the UN Children's Fund, the UN Population Fund, CARE, Save the Children, Regional Prevention of Maternal Mortality Network, Reproductive Health Response in Conflict Consortium, and several human-rights non-governmental organisations. The main field projects in 17 countries covered a total




Still Pictures

population of nearly 180 million people, and averted an estimated 9500 maternal deaths.

These successful projects have built on the capacity for problem-solving and innovation that is an under-appreciated resource even in countries with the highest mortality rates. One area in which country-led innovation will be crucial is in addressing the crisis in human resources. The initiatives in Mozambique, Tanzania, and Malawi (where non-physicians are trained and empowered to provide obstetric surgery and other life-saving procedures), and in India (where general practice physicians are being trained with the support of the Federation of Obstetrics and Gynaecological Societies of India in emergency obstetric care to do caesarean sections and to give anaesthesia), are among the examples that deserve serious study for effectiveness, equity of service use, and potential for scale-up.

Perhaps most encouraging is the fact that many field projects and innovations are being replicated by governments and their partner agencies. For example, in Rajasthan, India, the UN Population Fund/Averting Maternal Death and Disability project was implemented in more than 80 facilities in seven districts with a budget of US$1·4 million. Now the approach has been adopted by the Rajasthan state government for use as a model in a project to strengthen state health systems, financed through a World Bank loan of more than $100 million.[15] Furthermore, elements of the Rajasthan project are being incorporated into India's national Reproductive and Child Health Program[16] (with a budget of billions of dollars). Replication and scale-up are taking place in many other countries, sponsored by many other agencies. Even so, funding for maternal health programmes is still scarce and inconsistent, and should be rapidly and substantially increased if this important human right of women is to be met. The funding should also be flexible enough to encourage local tailoring of programmes, while conserving crucial central elements.

But replication alone is not enough to yield the substantial progress that we believe is possible, even in countries with high mortality rates.[17] Programmes to reduce maternal mortality must be joined with bold efforts to overcome the steep systemic barriers to equitable access that have been created during decades of harmful economic policies and political neglect. Because effective maternal mortality programmes must include facility-based services to treat obstetric complications, they provide a unique opportunity to tackle fundamental health-systems problems in a focused, measurable, and pragmatic way—with implications well beyond maternal health. Indeed, met need for emergency obstetric care offers a useful tracer for overall strengthening of health systems.[18]

21 years ago in *The Lancet*, we posed the question, "Where is the M in MCH?"[19] Today, we have much of the answer. What is needed now is the determination, focus, and resources to finally reduce rates of maternal mortality in developing countries.

*Allan Rosenfield, Deborah Maine, *Lynn Freedman*
Mailman School of Public Health, Columbia University, New York, NY 10032, USA (AR, LF); and School of Public Health, Boston University, Boston, MA, USA (DM)
lpf1@columbia.edu

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# Japan: are statins still good for everybody?

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Use of statins has become almost mandatory in a range of disorders, from coronary heart disease to ischaemic cerebrovascular disease, and several other high-risk conditions, such as diabetes and hypertension.[1–3] Although the guidelines for risk assessment have been somewhat softened—eg, the coronary heart disease risk equivalence of diabetes[4]—the tendency to widen statin indications still remains.

Despite the widened indications, some questions about primary risk prevention remain open. Women are poorly represented in most studies and generally achieve a lower risk-reduction than men, frequently not reaching statistical significance.[5] Another example is individuals at low risk—eg, Japanese, in whom the need for cholesterol-lowering drugs might possibly seem overstated.

A formal answer from Japan comes from the MEGA trial in today's *Lancet*.[6] Haruo Nakamura and colleagues did a randomised open-label study, investigating pravastatin (10–20 mg per day) added to a low-lipid diet in primary prevention in individuals with moderate hypercholesterolaemia (5·69–6·98 mmol/L). Of about 8000 participants, 70% were women. The study provided overall positive results, reaching the gold standard of about 30% reduction in the diet plus pravastatin group versus the diet only group, with a coronary heart disease endpoint. This risk reduction occurred despite modest total and LDL cholesterol lowering by attributable reductions of 9·4% and 14·8% respectively, after drug treatment.

Most noteworthy from the results was the low number of coronary heart disease events—101 in the diet group versus 66 in the drug-treated group. Such findings would be surprising in about 8000 patients with moderate cholesterol elevations followed up for over 5 years in the USA or Europe,[7,8] particularly since 40% of the Japanese patients had hypertension and over 20% of patients were either diabetics or smokers.

MEGA does not yet provide the final answer for women, as it did not show a reduction of events after pravastatin in women. The hazard ratio for coronary heart disease (0·71) did not reach statistical significance. The male minority was responsible for the final positive outcome. Some other findings are worthy of attention. There seemed to be no effect of the presence or absence of diabetes, being overweight, or smoking. Results were better in individuals older than 60 years and with an LDL cholesterol concentration of more than 4·01 mmol/L.

The positive outcome of MEGA emphasises the importance of population versus individual approaches, and of social choices for cardiovascular prevention. It is a general rule to support the validity of the "lower the better" approach by cholesterol lowering in graphic form, as best exemplified in figure 4 of the article by Opie and colleagues.[9] MEGA underlines the importance of calculating an absolute, rather than a relative, risk-reduction after treatment. A 30% relative risk-reduction might hide some important requirements: such reduction for a population with a 1% global risk is actually only 0·3%, whereas if the disease occurs in all of the population a 30% risk-reduction is, well, 30%. In lipid-lowering trials, absolute risk varies widely, from very high—eg, exceeding 22% in the 5 years of the 4S trial[10] (with an absolute risk-reduction of 7·7%)—to studies showing a far lower risk. These findings allow the calculation of the number needed-to-treat as 1/absolute risk reduction—ie, 1/0·077=13 for the 4S trial. Low-risk trials, such as AFCAPS,[7] had an absolute baseline risk of only 5·5%, a risk reduction of 2%, and a consequent number needed-to-treat of 50. MEGA shows an absolute risk reduction of less than 1% and number needed-to-treat of 119. In studies with a low absolute risk reduction, a paradoxical increase in non-cardiovascular deaths might occur, which happened in AFCAPS with lovastatin and in the Helsinki and FIELD studies with fibrates,[7] but not in MEGA.

The reduction of events with lipid-lowering should thus not only be correlated to changes in total or LDL cholesterol, but also to the absolute risk in the placebo group.[8] Risk-reduction is highest in trials with a high