colleagues' work will find themselves yet again reporting on maternal mortality at the global and country level by using tortuous statistical techniques and educated guessing.

A simple, and some would argue bad, solution could be to drop maternal mortality as a measure on the global agenda and replace it by some proxy measures for maternal health. The reproductive health community has been trying to find such proxies, but without too much success to date.[4] A more difficult alternative, although much more time and resources would be needed, would be to intensify efforts to build national capacity for countries to develop reliable information systems that can at least measure crucial health outcomes, explain their causes, and track national responses.

This is an exciting time in global health. Initiatives by the UK and Norway are providing real hope for a more rational approach to development assistance in health, by moving away from fragmentation to stronger coordination and harmonisation and for renewing the focus on health systems.[5,6] The Bill & Melinda Gates Foundation is investing considerable resources in systems, including measurement.[7] Bilateral and multilateral agencies are collaborating far more than in the recent past, and are re-emphasising work on health systems. The interagency support and authorship of the paper by the Maternal Mortality Working Group provides hope that the new environment of collaboration is real. But the difficulty in coming up with the estimates of maternal mortality shows how far we are in many countries from having national health systems that can measure problems, much less solve them.

Abdo S Yazbeck
Health and AIDS Program, World Bank Institute, World Bank, Washington, DC 20433, USA
Ayazbeck@worldbank.org

I declare that I have no conflict of interest.

1 Hill K, Thomas K, AbouZahr C, on behalf of the Maternal Mortality Working Group. Estimates of maternal mortality worldwide between 1990 and 2005: an assessment of available data. *Lancet* 2007; **370**: 1311–19.
2 Wagstaff A, Claeson M. The Millennium Development Goals for health: rising to the challenges. 2004. http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2004/07/15/000009486_20040715130626/Rendered/PDF/296730PAPER0Mi1ent0goals0for0health.pdf (accessed Oct 4, 2007).
3 World Bank. Healthy development: the World Bank strategy for health, nutrition, and population results. April 24, 2007: http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1154048816360/HNPStrategyFINALApril302007.pdf (accessed Oct 4, 2007).
4 Yazbeck A. Real and perceived threats to reproductive health: a way forward. *Reprod Health Matters* 2004; **12**: 25–34.
5 Office of the Prime Minister. World's major diseases can be conquered. Sept 5, 2007. http://www.pm.gov.uk/output/Page13063.asp (accessed Oct 4, 2007).
6 Solholm R. Stoltenberg launches world health initiative. *Norway Post*, Sept 27, 2007. http://www.norwaypost.no/cgi-bin/norwaypost/imaker?id=103798 (accessed Oct 8, 2007).
7 Health Metrics Network (HMN). http://www.who.int/healthmetrics/en (accessed Oct 4, 2007).

Rethinking interventions for women's health

See Editorial page 1283
See Articles page 1320

Since its birth in 1971, Bangladesh has made impressive progress, especially in the social sector. The population has doubled, but fortunately the trebling of food production has contained the food shortages and famines that previously characterised this land. Net enrolment in primary schools has exceeded 85%, and the gender gap has disappeared. Both infant mortality and total fertility rates have more than halved. Life expectancy has risen by 50%, with women now living longer than men. Such gains have benefited disproportionately groups that were hitherto marginalised, such as women and poor people.[1,2]

How did these gains occur? Bangladesh has seen many good public-health interventions, such as oral rehydration therapy, immunisations, vitamin A distribution, clean water, and family planning, along with increased national commitment to reduction of inequities, as described in the Poverty Reduction Strategy Papers[3] and other documents. Actions that favour marginalised groups, such as a stipend for girls in schools and a food incentive to attend school for pupils from poorer families, have also contributed to a reduction of inequity. The independence war defeated religious dogmatists, effectively ending their resistance to new ideas such as family planning and emancipation of women. Then came the rise of non-governmental organisations that promoted progressive values and that scaled up their interventions for women's empowerment, education, health, and family planning to reach the whole nation.

The country has also seen decreased maternal mortality. In today's *Lancet*, Mahbub Chowdhury and colleagues' report on the reduction in maternal mortality in Matlab, Bangladesh.[4] Their report is interesting not only because they document an absolute decrease but

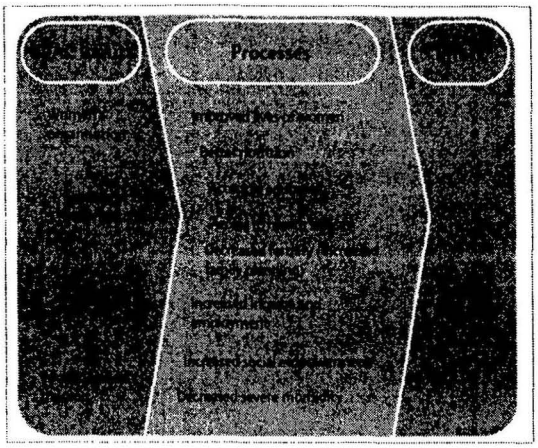

Figure: **Pathways explaining effect of BRAC programmes on mortality reduction[8]**

also for the reasons for this decline. They pointed out the positive role of new obstetric facilities, but questioned any substantial role for community-based midwives. This view challenges the current wisdom of promoting skilled birth attendants for all deliveries. In Bangladesh, for example, over the past few years the government has trained about 2500 such birth attendants. Unfortunately not many of them function effectively. In a country of 140 million people and 84 000 villages, how many years will it take to train skilled birth attendants for all deliveries? The other issue is the role of non-obstetric interventions, such as education and microcredit, in the reduction of maternal mortality.

Over the past 15 years, researchers have examined the effect of development interventions, such as primary education, microcredit, and women's empowerment, by BRAC, a non-governmental organisation, on health in Matlab. BRAC also trained thousands of community-health volunteers who provide a variety of services to women and children in Bangladesh.[5] Such studies attributed a 22% improvement in child survival to BRAC's interventions alone.[6] Positive effects of BRAC's interventions in reduction of violence against women, increasing family-planning practice, improving children's nutritional status, provision of better quality education, and improving livelihood were also documented.[7]

Unfortunately, Chowdhury and colleagues did not analyse maternal mortality by comparing women who did and did not receive inputs from non-governmental organisations, which could have helped to better elucidate attribution. Improved economic opportunities plausibly resulted from access to microcredit, and the enhanced status and value of women in families might have provided the motivation to take extra care during pregnancy and seek emergency attention during and after delivery. BRAC's inputs might have affected mortality in many ways (figure).

BRAC has recently started a programme for maternal, neonatal, and child health in Bangladesh through community involvement and strengthening of existing emergency obstetric facilities. An early lesson from this programme is that the socioeconomic status of a woman largely determines whether she survives a medical emergency. A woman with greater socioeconomic status has higher chances of being rushed to a facility in time, and also being looked after well.[9] Each year, more than 12 000 women die during labour and up to 42 days postpartum in Bangladesh, and the factors affecting such deaths are many and complex. Reduction of maternal deaths thus requires a multipronged attack from all conceivable fronts—obstetric and non-obstetric. Interventions based on both are likely to have maximum and sustained effects.

A Mushtaque R Chowdhury
James P Grant School of Public Health, BRAC University, Dhaka 1212, Bangladesh
Mushtaque.arc@brac.net

I thank Abbas Bhuiya, ICDDR,B, for his advice in the preparation of this Comment. I declare that I have no conflict of interest.

1 Bhuiya A, Chowdhury M, Ahmed F, Adams AM. Bangladesh: an intervention study of factors underlying increased equity in child survival. In: Evans T, Whitehead M, Diderichsen F, Bhuiya A, Wirth M, eds. Challenging inequities in health: from ethics to action. New York, NY: Oxford University Press, 2001: 227–39.
2 Chowdhury AMR, Nath SR, Choudhury RK. Equity gains in Bangladesh primary education. *Int Rev Educ* 2003; **49**: 601–19.
3 Government of Bangladesh. Unlocking the potential: national strategy for accelerated poverty reduction. Dhaka: Government of Bangladesh, 2004.
4 Chowdhury ME, Botlero R, Koblinsky M, Saha SK, Dieltiens G, Ronsmans C. Determinants of reduction in maternal mortality in Matlab, Bangladesh: a 30-year cohort study. *Lancet* 2007; **370**: 1320–28.
5 Standing H, Chowdhury AMR. Producing effective knowledge agents in a pluralistic environment: what future for community health workers? *Soc Sci Med* (in press).
6 Bhuiya A, Chowdhury M. Beneficial effects of a woman-focused development programme on child survival: evidence from Bangladesh. *Soc Sci Med* 2002; **55**: 1553–60.
7 Chowdhury AMR, Bhuiya A. The wider impact of BRAC poverty alleviation programme. *J Int Dev* 2004; **16**: 369–86.
8 Chowdhury AMR, Bhuiya A, Ahmed SM. Introduction and overview. In: Bhuiya A, Chowdhury AMR, eds. Tackling social determinants of health: fifteen years of learning from BRAC-ICDDR,B project in Matlab, Bangladesh. Dhaka: BRAC and ICDDR,B, 2007: 1–11.
9 Pitchforth EL, van Teijlingen E, Graham W, Dixon-Woods M, Chowdhury M. Getting women to hospital is not enough: a qualitative study of access to emergency obstetric care in Bangladesh. *Qual Safe Health Care* 2006; **15**: 214–19.