

EMBARGO: 00:01H (UK time) Friday April 11, 2008. In North America the embargo lifts at 18:30 (EDT) Thursday April 10, 2008

Countdown to 2015: a report card on maternal, newborn, and child survival

The four papers published this week—on coverage,¹ equity,² financing,³ and policy,⁴ informed by the two detailed country analyses from South Africa⁵ and Tanzania⁶—provide the most up-to-date and comprehensive scientific assessment yet of progress towards international goals for reducing maternal, newborn, and child mortality. They represent a substantial step forward in scope and outcomes from the first Countdown report, presented in London in 2005.^{7,8} Concerted global action on maternal, newborn, and child survival, together with a renewed commitment to reproductive health, all triggered by this unprecedented collaboration between scientists, agencies, and civil society, has mobilised a new era of international and country action to address these neglected aspects of human health.⁹

The key messages from these reports deserve emphasis. Only 16 of 68 priority countries are on track to reach Millennium Development Goal (MDG) 4 on child survival (to reduce under-5 mortality by two-thirds between 1990 and 2015). Despite notable successes—eg, China's achievement of on-track status and increases in immunisation coverage—this incremental progress since 2005 is disappointing. Africa remains a particular focus of concern. At least half of maternal and child deaths take place in sub-Saharan Africa. There are critical gaps in contraceptive services, skilled birth attendance, and clinical management of newborn and child illnesses. Opportunities are being missed—for example, preventing mother-to-child transmission of HIV during antenatal care.

A conference to present and discuss the implications of the Countdown findings will take place in Cape Town, South Africa, on April 17–19, 2008. The choice of Africa for this event was deliberate and is significant. It signals the determination of all Countdown partners to do more to mobilise political commitment and financing for maternal, newborn, child, and reproductive health across the continent. In sub-Saharan Africa, 12 countries are experiencing worse rather than improved under-5 mortality rates. Listed according to the magnitude of these reversals, they include: Botswana, Swaziland, Zimbabwe, Lesotho, Kenya, Congo, Equatorial Guinea, South Africa, Cameroon, Chad, Central African Republic, and Zambia.¹

There are also large variations in measures of health among mothers and children within countries.² Although discernible progress is seen on equity across 40 nations, advances are still too slow, and an adverse trend is found in Chad, Kenya, Zambia, and Zimbabwe. Equity is a desperately neglected sphere of health-policy making. On aid, disbursements fell in some countries and aid flows remain volatile.³ Project rather than general-budget support is still the preferred means of financial disbursement. While the USA and World Bank remain leading donors, the Global Fund to Fight AIDS, Tuberculosis and Malaria has now become the third largest contributor to maternal and child health aid-flows.

Analysis of health-policy commitments for information, governance, services, finance, and workforce show many gaps across priority countries.⁴ In particular, there needs to be stronger country and global commitment to child and maternal health goals. Reproductive health, too often forgotten as an essential component of maternal, newborn, and child health strategies, requires immediate attention. Financial flows need to be scaled up dramatically. And countries continue to need strong technical assistance to devise costed national programmes and policies.



When read as a whole, these reports also underline three important additional issues that demand international action.

First, on health systems. The major limitation to expansion of essential services—such as coverage for oral rehydration therapy, treatment of childhood pneumonia, and provision of skilled and emergency obstetric care—is the capacity of the health system. Tanzania is an example of what can be achieved.⁶ The country saw a reduction in child mortality of a quarter between 2000 and 2004, although newborn and maternal mortality has yet to be reduced. Tanzania's government doubled its spending on health, introduced sector-wide basket funding, and expanded coverage of key maternal and child health interventions. Despite the challenges of endemic poverty, less than optimum infrastructure, an insufficient health workforce, high fertility rate, and severe HIV burden, substantial progress was achieved. Concerted political focus on the health system can, in other words, produce results. With the high-level political attention now being given to health systems,¹⁰ together with WHO's strong technical leadership in health systems and health-systems research,¹¹ the conditions are favourable for action.

A second vital issue is nutrition. Maternal and child undernutrition account for 20% of maternal deaths and 35% of under-5 deaths, respectively. Yet nutrition accounts for only 8–13% of total aid flows. The recent *Lancet* series on maternal and child undernutrition¹² charts a hopeful course for accelerating progress on stewardship, resource mobilisation, access to emergency services, and capacity for nutrition in low-income and middle-income countries.

Third, a wealth of new data has become available to monitor intervention coverage in recent years. There has been a huge amount of household survey activity in just the past 3 years, for example, which has enabled a more comprehensive assessment of intervention coverage in the latest Countdown report. The datasets supported and maintained by UNICEF and USAID, together with information on policies and systems compiled by WHO, UNFPA, UNAIDS, and non-governmental organisations (eg, Save the Children), provide critical, robust, and reliable estimates for policy makers. Lack of reliable data continues to hamper country efforts to design and implement plans to address maternal and child mortality. But gaps, especially around maternal mortality, remain significant constraints on progress. The Countdown team estimated that a third of necessary

data is either lacking or unusable. It must become a funding priority to support country-led continuous monitoring and tracking of health programmes. One particular strength of the latest Countdown report is the addition of detailed country analyses to add depth and context to the headline results. There is a precious lack of such country-based investigations. Yet they are critical not only for local documentation and accountability but also for the clues they give others about how to accelerate progress.^{13–15}

The Countdown process, which was launched in 2003 by a group of concerned public-health scientists within and outside UN agencies,¹⁶ has evolved rapidly into a scientific and social movement to prevent the needless deaths of millions of mothers and children. It represents an extraordinary vision and effort, initially by a small group of individuals, but one that now embraces hundreds of health workers, investigators, and policy makers across the world. A new community has been created encompassing reproductive, maternal, newborn, and child health, joining individuals with common interests and values in the academic community, health professions, the UN, and civil society. *The Lancet* has been a privileged witness of this endeavour. With this issue, we pay tribute to it, and rededicate ourselves to the objectives of Countdown to 2015. At the half-way stage towards the Millennium Development Goals, Countdown symbolises a model for collaboration, evaluation, and action that has valuable lessons for many other domains in global health.

Taken together, these analyses indicate that, despite isolated examples of welcome progress, national and global attention to maternal, newborn, and child health is still strikingly inadequate. Children and mothers are dying because those who have the power to prevent their deaths choose not to act. This indifference—by politicians, policy makers, donors, research funders, and civil society—is a betrayal of our collective hope for a stronger and more just society, one that values every life no matter how young or hidden from public view that life might be. It signifies an unbalanced world in which only those with money, military strength, and political leverage determine what counts and who counts. As health professionals, we should not accept this pervasive disrespect for human life. We have a voice, a platform, and a constituency that should be an instrument for radical change. Let that voice be heard in Cape Town.

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Making the Countdown count

The 2008 Countdown report¹ comes at a particularly important time—the midpoint for achieving the Millennium Development Goals (MDGs) in 2015. This issue of *The Lancet* focuses on the 2008 results of the Countdown to 2015 for Maternal, Newborn, and Child Survival initiative, and coincides with the Countdown meeting in Cape Town, South Africa, held jointly with the Inter-Parliamentary Union.²

Countdown, a collaboration of individuals and institutions, aims to stimulate country action by tracking coverage for interventions that are essential for the attainment of MDGs 4 and 5, as well as elements of the other health-related MDGs.¹ In 2006, we reported on coverage of child survival interventions for 60 countries in the first international Countdown conference, held in London in December, 2005.³ The Countdown 2008 report tracks progress in 68 countries that account for more than 97% of maternal and child deaths, and includes indicators across the continuum of care for reproductive, maternal, newborn, and child health.¹ The coverage results⁴ are complemented by tracking of relevant policies, health system performance measures,⁵ equity patterns in coverage,⁶ and financial flows to maternal, newborn, and child health and nutrition.⁷

The 2008 Countdown results are sobering.^{1,4} They show some progress in reducing mortality but at rates that are too slow and in geographical areas that are

too circumscribed to achieve MDGs 4 and 5. Although China is now on track to reach MDG 4 and more countries are making progress in reducing mortality, maternal and child deaths are becoming increasingly concentrated in sub-Saharan Africa, an area which accounts for around half of such deaths despite constituting only 11% of the world's population. Of the 12 countries where progress towards MDG 4 has reversed, most have high HIV prevalence rates or are affected by conflict. These countries also have very high maternal mortality ratios.

The Countdown papers in this week's issue provide detailed results highlighting where progress is being made and where further action is needed. Coverage is improving for interventions that can be routinely scheduled (immunisations, vitamin A, antenatal care). Encouragingly, some of these schedulable interventions are increasing in coverage, which shows how increased resources and political attention can indeed get more results. However, coverage is low and increasing too slowly, if at all, for interventions that require clinical skills and must be available at all hours of a day, such as skilled care during childbirth, postnatal care, and treatment for children with pneumonia, diarrhoea, and malaria. In many countries, coverage of care falls at crucial points across the continuum of care, failing mothers and children. The typical pattern in most countries shows low contraceptive prevalence

Feature	Description
Country focus	Individual country profiles of coverage, with selected information about the demographic and epidemiological contexts and key determinants of coverage
68 priority countries	68 countries with the highest burden of maternal and child mortality, which represent more than 97% of all such deaths
Coverage of interventions within the continuum of care	Tracking coverage of interventions with evidence of effect for maternal, newborn, and child survival, which can be delivered within the continuum of care, the core of a functioning health system
Continuity	Countdown will continue to report on progress until 2015, the target date for the MDGs
Independence yet wide ownership	An effort, involving UN agencies and civil society, individual researchers, and development workers from country, regional, and international levels
Action-oriented	Countdown amalgamates the information needed to assess progress and spur country-level action to accelerate progress towards reduction of maternal, newborn, and child mortality and improved nutrition

Table: Features of the Countdown initiative

in pre-pregnancy and higher antenatal care coverage during pregnancy, but there is a precipitous drop in coverage for interventions around childbirth and in the postnatal period. Coverage levels rise again in the post-neonatal period for immunisation but with inadequate coverage for treatment interventions.

Additionally, patterns of inequity show that people in the poorest economic quintile receive less care and have higher mortality rates than their wealthier peers.⁶ Urban versus rural disparities are particularly striking for certain interventions such as access to caesarean sections. Disparity patterns also differ by region. In Latin America, people in the poorest quintile are much worse off than other groups, and should be targeted. In most of sub-Saharan Africa, only the highest quintiles are doing well, which implies that rapid increases in overall coverage are necessary.

Analysis of flows of donor finance indicates that the total volume of official development assistance to maternal, newborn, and child health increased by 64% from 2003 to 2006, yet such programmes are still grossly underfunded in relative and in absolute terms.⁷ Also, 95% of such aid is provided in the form of projects and can change with little notice, which makes it difficult for countries to plan effectively. Within some countries, out-of-pocket expenditures by families also threaten to hinder progress towards the health MDGs and to exacerbate inequities. As the G8 Summit in Japan in July, 2008, approaches, none of the G8 countries have reached their target of 0.7% of gross domestic product spent on official development assistance, although some have made progress.

The 2008 Countdown results point to four new directions that must be vigorously pursued. First, the

results provide strong support for the renewed focus on strengthening health systems. In particular, the crisis in human resources must be addressed so that clinical services for mothers and children can be provided on a 24-h basis.⁵ Similarly, urgent investments are needed in most countries to strengthen infrastructure and supplies, planning, management and supervision, and monitoring.

Second, the results highlight the urgent need for more attention to be paid to the devastating effects of conflict and the HIV pandemic on health systems, especially in sub-Saharan Africa. Innovative programme models, such as pooled insurance and performance-based contracting with non-governmental organisations have been scaled up in Rwanda and Afghanistan, but the results of these efforts need better documentation.

Third, the results reinforce the need to better integrate and link programmes and initiatives. For example, routine immunisation (including measles campaigns) and antenatal care have been important mechanisms for distribution of insecticide-treated nets for malaria prevention. Other potential links, such as those with reproductive health, must be strengthened if consistently high and equitable coverage across the continuum of care is to be achieved. Opportunities include linking programmes for the prevention of mother-to-child transmission of HIV with antenatal, delivery, and postnatal care. The increased momentum for artemisinin-based combination therapy for treatment of malaria at the community level could also stimulate a rapid increase in coverage for community treatment of pneumonia and diarrhoea, and treatment of severe acute malnutrition.

Fourth, we need more and better use of data for programmatic decision making, including a common evaluation framework. Further methodological work on monitoring intervention coverage is also required to validate measures of the continuum of care and assess the functionality of health systems.⁸

The 2008 Countdown results show inadequate progress, but there is reason to hope that we are at a tipping point.⁹ Most importantly, several poor countries are demonstrating that rapid progress is possible. Indonesia, Nepal, Laos, Bangladesh, and Bolivia have all reduced their under-5 mortality by more than half since 1990, and several countries in eastern Africa are showing substantial reductions in mortality.¹⁰ Skilled

attendance at delivery, a main indicator for MDG 5, has increased in north Africa. However, progress in south Asia has been slow and in sub-Saharan Africa has been very limited.

The past 2 years have seen rapid changes in the global architecture for health and nutrition, and many new complementary global initiatives have been announced. The International Health Partnership, the Global Campaign for the Health MDGs, and the Catalytic Initiative all promote harmonised support for one health sector plan led by governments and inclusive of all partners. The H8, an informal platform of global health leaders, promises further alignment of efforts.¹¹ The GAVI Alliance has rolled out its health system strengthening window, and the Global Fund to Fight AIDS, Tuberculosis and Malaria has shown interest in supporting systems-for-outcomes approaches.¹²

There is more money and greater political will for global health than ever before. We need to capitalise on these resources to strengthen health systems and close the huge gap for maternal and child clinical services. Several world leaders have formed a Global Network of Leaders, which is actively promoting actions to address maternal and child survival.¹³ With the engagement of Parliamentarians the political momentum for maternal, newborn, and child health will increase further.

The next Countdown meeting will be in 2010—another crucial milestone for MDG tracking. With concerted efforts a major turnaround in progress could rewrite the outcomes of many countries. The lives of mothers, newborn babies, and children living in these countries depend on the results.

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JB, AS, and JL have received funding for travel from the Partnership for Maternal, Newborn and Child Health (PMNCH), which itself receives funds from the Bill & Melinda Gates Foundation, the UK Department for International Development, the Norwegian Agency for Development Cooperation, Save the Children US and UK, UNICEF, UNFPA, and WHO. JB has worked as a consultant for UNICEF. PS, EM, FB, and VF declare that they have no conflict of interest. We thank Anuraj Shankar, Bernadette Daelmans, Jennifer Requejo, Tessa Wardlaw, and Monir Islam for their contributions to this Comment.

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Parliamentarians: leading the change for maternal, newborn, and child survival?

Political will, and the translation of that will into political and legislative action, is essential to ensuring maternal, newborn, and child survival. Recognising this necessity, the Countdown to 2015 initiative and the Inter-Parliamentary Union (IPU) are teaming up on the occasion of the IPU Assembly convening in Cape Town next week.

The Countdown to 2015 initiative focuses on the 68 countries that account for 97% of maternal and child deaths worldwide. It aims to improve accountability at the global and country level by including stakeholders from the health sector, governments, and civil society organisations.¹ A key finding of the Countdown to 2015

Panel: Parliamentarians—the champions for maternal and child health

In 2007, the UK Parliamentary International Development Committee staged a maternal health inquiry with numerous written and oral testimonies to assess reasons for the lack of progress in maternal mortality worldwide. The recent final report from this inquiry suggested the need for greater cooperation among actors to ensure more concerted action and more adequate investments to achieve the MDG relating to women's health.⁵ In his comments, the Parliamentary Committee Chair, Bruce Malcolm, called on the UK's Department for International Development to help developing countries improve data collection and extend access to free medication, as well as midwifery and obstetric care.⁶

In a similar manner, last year the Ugandan parliamentarian Sylvia Ssinabulya organised a women's caucus which sponsored a motion for Parliament to make maternal health a priority issue on the national agenda. This committed Member of Parliament, inspired by the findings and resolution at the Women Deliver conference in London in October, 2007, is planning to meet the President of Uganda to lobby him and his Cabinet to finance the roadmap for maternal, newborn, and child survival in Uganda for the next 4 years.⁷

report is that, although 16 of 68 countries are on track to achieve the Millennium Development Goals 4 and 5, many more are not progressing fast enough.² The interventions that are crucial to attaining these goals have not yet achieved a sustained and equitable coverage among the population.³ Additionally, the funding provided to maternal, newborn, and child health, although increasing in the past 4 years, is still insufficient.⁴

Hence the urgent need to mobilise members of parliament. As elected leaders, they are the most representative voices of the people. They can influence their governments' political priorities and affect the political direction of countries. They hold the purse strings and can make a significant difference in ensuring that adequate resources are provided by their governments. In short, parliamentarians can affect changes in maternal, newborn, and child health in both the north and south of the world (panel). But how have parliamentarians across the 68 Countdown countries used their role? Have they listened to the priorities of their electorate, especially the most vulnerable women and children? Have their actions been significant in determining progress in the ten best performing countries? Has their lack of engagement resulted in poor outcomes in the ten worst performing countries?

To address these issues, the IPU, representing parliaments from some 150 states, and the Partnership for Maternal, Newborn and Child Health, with a membership of almost 250 state and non-state actors, have agreed to cooperate to encourage urgent action on maternal, newborn, and child health. The IPU is the world organisation of parliaments. Established in 1889, it promotes peace and democracy, facilitates political dialogue among members of parliament, and mobilises parliamentary cooperation and action on a wide range of subjects that are high on the international agenda.

Next week's Countdown meeting in Cape Town will be an unprecedented opportunity for parliamentarians from the 68 countries to sit down with experts and policy makers to discuss the situation of women, newborn babies, and children in their own countries. It will also be a time to exchange experiences with other countries about activities that have been successful in generating the requisite political will to change the tide. During the IPU Assembly, which will bring together 1500 delegates from over 140 parliaments, the parliamentarians will first review the findings of the Countdown to 2015 report, and at a special session at the Countdown meeting they will pledge to take action over the next year, and to report back to the IPU Assembly in 2009 on the results achieved.

In other words, parliamentarians will commit to leading the change for maternal, newborn, and child survival. What could be a better legacy for politicians to bequeath?

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Delivery of MDG 5 by active management with data

A goal of the Countdown to 2015 is to scale up coverage of interventions to reduce preventable deaths.¹ Here we propose that reductions in maternal and newborn mortality can only be achieved by improving quality of care, in addition to coverage, and will require continuous routine monitoring and assessment with active use of data to guide decisions and action.

The 2008 *Countdown to 2015* report goes beyond the 2005 report by tracking coverage of interventions aimed at Millennium Development Goal (MDG) 5: reduction of the maternal mortality ratio by three-quarters and universal access to reproductive health. Although this goal seems analogous to MDG 4, closer inspection reveals a more complex challenge. Despite some increases in coverage of antenatal care and skilled attendance at birth since 1990, many of the 68 priority countries still have high maternal and newborn mortality.^{1,2} One of the main reasons for this paradox is that current indicators might not capture quality of care.^{1,3,4} In addition, the imprecision of estimates of maternal mortality ratios themselves and the underlying difficulties in measurement limit their use in the tracking of progress.⁵ We must, therefore, monitor quality of care and practices more directly associated with mortality reduction.

A step forward would be to assess actual practice. In addition to measuring the coverage of antenatal-care visits, we could assess content of visits (eg, monitoring of blood pressure, anaemia, or pregnancy history) and actions taken (such as intermittent presumptive treatment for malaria or referral for complications). As well as tracking the proportion of births with a skilled attendant, we could assess key practices such as the use of partographs to monitor progress of labour and reduce prolonged labour, use of magnesium sulphate for treatment of pregnancy-induced hypertension, use of clean delivery practices to reduce risk of post-partum sepsis, and use of uterotonics to reduce post-partum haemorrhage. Moreover, indicators should include birth outcomes influenced by the quality of care, such as deaths of full-term, normal-weight newborns,⁶ and may require development and standardisation of new and simple indicators to track stillbirths or infant deaths soon after birth.⁷ Similarly, closer tracking of caesarean section and outcomes would enable assessment of both

provision of this life-saving procedure and quality of care in the facilities providing it.⁸

The tracking and investigation of maternal morbidity outcomes—including near-misses, severe maternal illness, and disability—are also very useful.^{4,9} Audits for near misses, maternal deaths, and newborn deaths can lead to tremendous improvements in quality of care at scale.^{10,11} Accurate counts of these events are essential and would be aided by registration and tracking of pregnancies at the community level, which would be particularly important where few births occur in facilities. Beyond quality of medical care, satisfaction of patients should be monitored.¹²

New approaches and revitalisation of existing ones are needed to record the data outlined above. The poor state of local health-information systems in many developing countries has contributed to dependence on periodic national household cross-sectional surveys to track progress. Although simple changes to population-based survey questionnaires may improve how informative they are, long intervals between surveys limit their use: they do not capture moment-of-care data and are



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not the best way to enumerate stillbirths, newborn, or maternal deaths.¹³ We call for an information reform to improve a bottom-up approach to generation and use of information, in addition to the largely top-down approach of health statistics. This would emphasise revitalisation of locally based health information systems to provide real-time data on delivery practices, care, and outcomes in communities and facilities that can be used directly to improve local practices and thus reduce maternal and newborn deaths.

In addition, the ability to follow up women from the clinic to the community is crucial. In this context, community health workers are underused, and can have a crucial role in the recording of data on pregnancies and outcomes of non-facility based deliveries. Indeed, given the declining cost of computers and widespread use of cell phones, tracking and follow-up of patients is more feasible and less costly than ever before. Investments in innovative monitoring approaches, personnel, and capacity building at community, clinic, and district levels are needed.

Perhaps the most challenging step is to ensure use of data to improve the quality of routine maternal and newborn care and emergency obstetric care through the strengthening of health systems. The success of any such strengthening should be determined by how well the system improves health.¹⁴ The ability to provide quality maternal and newborn care, perhaps more than any other service, is a litmus test for a functional health system, because it requires locally accessible and affordable 24-h provision of highly skilled staff able to make rapid life-saving decisions with access to proper facilities, supplies, and support personnel. Building and scaling up such systems is not a simple one-size-fits-all process, as it requires adaptation to local conditions. However, in many settings the most effective types of recruitment, training, or supervision to develop human resources or logistical frameworks are unknown.¹⁵ The establishment of effective health systems requires a shift from passive monitoring to active use and integration of data as an intervention that fosters participation and accountability of all stakeholders, from governments to communities. Priority should be given to the adoption of data-driven enhancement of local interventions to foster both empowerment and results.

Speeding up the progress toward MDG 5, and also MDG 4, will require rapid and effective scaling up of

both quality and quantity of care through guided health system development. These steps are achievable, even in resource-poor countries, but will require a framework in which effective action can be taken on the basis of specific evidence. We propose an approach based on identifying indicators of quality of care, collection of necessary information, and use of this information at the local level.

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We thank Ann Starrs and Anita Shankar for their contributions. We declare that we have no conflict of interest.

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Sexual and reproductive health: completing the continuum

The addition of a new target (5.B) to have universal access to reproductive health by 2015 to Millennium Development Goal (MDG) 5 "Improve maternal health" has given renewed priority to addressing care related to the health outcomes of MDGs 4 and 5,¹ and to redressing the large disparities in coverage of health services between and within countries. The analyses and country profiles of the *Countdown to 2015* papers in today's *Lancet* properly address the full range of necessary interventions from before pregnancy to the start of the third year of life.

The original neglect of reproductive health and family planning in MDGs² contributed to decreased attention, reduced funding, and increased risks for women and children. The data presented in the *Countdown to 2015* paper show the effect of this lost focus. Poor sexual and reproductive health contributes to poor survival of mothers and children and to ill health among survivors, and impedes gender equality and poverty reduction.

The new target is grounded in the concept of sexual and reproductive health defined at the International Conference on Population and Development (ICPD) held in Cairo in 1994: "Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes".³ The ICPD definition of reproductive health includes sexual health as a core constituent.³ This definition reflects that of health in the 1948 charter of WHO.

The definition of reproductive health brings back the fundamental notions of informed and voluntary choice: access to safe and effective contraception (including emergency contraception) and other means to manage one's own fertility as recognised in national laws. Access to sexual and reproductive health information and services enables women to go voluntarily and safely through pregnancy and childbirth, and provides the best chance of having a healthy, wanted baby.

Maternal mortality could be reduced by a third through effective family planning to prevent unintended pregnancies.⁴ Preventing and managing the consequences of unsafe abortion, providing safe abortion when it is not against the law, and ensuring improved access to safe and emergency delivery services would help reduce maternal mortality to international target levels.

The *Countdown to 2015* report and national profiles clearly show that sexual and reproductive health services are essential for progress on MDGs 4 and 5. Such recognition has also been ratified by the Ministers of Health and Heads of State of the African Union in their adoption of the *Maputo plan of action for the operationalisation of the continental framework for sexual and reproductive health and rights*.⁵

The indicators selected to monitor global progress on the new target include the contraceptive prevalence rate, unmet need for family planning, adolescent birth rate, and coverage of antenatal care. Additional indicators have been developed through other processes.⁶

The *Countdown to 2015* reports show recognition that respect for human rights is essential for sexual and reproductive health by presenting both prevalence of contraceptive use and the unmet need for family planning. Taken together, these indicators reflect the extent to which those who wish to limit or space their births are able to exercise their right to do so.

The data on unmet need for family planning are stark and clear. Poor countries and poor members of society are least able to fulfil their family size and spacing aspirations:^{7,8} they have the lowest proportion of total demand for contraceptive services satisfied. The most recently available data for the 68 priority countries selected for inclusion in the *Countdown to 2015* report suggest that, at the national level, unmet need for family planning exceeds contraceptive use in at least 30 countries. Coverage of



antenatal care is central to maternal and child health; and better monitoring of the content and quality of services and their impact is needed.

A holistic view of what produces healthy outcomes and a focus on populations at particular risk are needed to achieve sexual and reproductive health. Populations at risk are not only the rural and the poor, but also those at vulnerable life stages, such as adolescents.⁹ The *Countdown to 2015* process promises higher attention to adolescent fertility in later reports. This indicator is a pointer to a wide range of issues including accessibility of information and services, relevant health risks, and the living situation of young people, including early marriage. The risk of maternal mortality among very young adolescents is high. Decades of research indicate that the risks to the health of children of young women are also higher than for children of women in the middle of the reproductive period. Adolescents are often less likely to benefit from necessary care, such as contraceptive services, even when available, due to social, political, and cultural barriers.

As recognised by the ICPD Programme of Action,³ the global WHO reproductive health strategy,¹⁰ and the recommendations for national-level monitoring,⁶ a perspective is required that encompasses the broad spectrum of needs related to sexuality and reproduction: voluntarism, family planning, safe delivery, access to emergency obstetric care, antenatal and postnatal services, prevention of unsafe abortion (reducing recourse to abortion and ensuring, where not prohibited by law, access to safe abortion), care for sexually transmitted infections (including HIV/AIDS and cervical cancer), and attention to human rights, inequities, and vulnerable populations. The *Countdown to 2015* articles would benefit from greater attention to these concerns. National health priorities would be better informed with consistent monitoring of sexual and reproductive health.

Sexual and reproductive health includes elements of the continuum of care that are central to the *Countdown to 2015* partnership. Higher priority for development, funding, and implementation of effective integrated health services within the primary health-care system is needed. Documentation of experience and an intensified basic and operational research agenda on health systems and their enabling environment will improve sexual, reproductive, maternal, newborn, and child health and reduce associated mortality and morbidity while, at the same time, reducing poverty and accelerating development.

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We thank Paul Van Look and Ann Starrs for review of this Comment. We declare that we have no conflict of interest.

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The village-based midwife programme in Indonesia

The Government of Indonesia launched the village-based midwife programme in 1989 in response to maternal mortality of over 400 per 100 000 livebirths and neonatal mortality of 32 per 1000 livebirths.^{1,2} The goal of the programme was to place a skilled birth attendant in every village to provide antenatal and perinatal care, family

planning, other reproductive health services, and nutrition counselling. The attendants were also to facilitate basic primary health-care services, including immunisation and nutrition interventions. Lessons from the programme are particularly timely for 68 priority countries in Countdown, many of which are attempting to scale up skilled birth

attendance to achieve Millennium Development Goals (MDGs) 4 and 5.

At its inception in 1989, the village-based midwife programme faced the staggering target of training and placing 54 000 midwives throughout a vast archipelago within 7 years. This required an enormous financial and political commitment.³ By 1997, over 96% of the population of Indonesia had access to 54 000 village-based midwives, many of whom were equipped with small birthing units.⁴ Midwife density increased from 0.2 to 2.6 per 10 000 people between 1986 and 1996.⁵ In rural areas, births attended by skilled midwives increased from 22% to 55% between 1990 and 2003,^{6,7} and socioeconomic inequalities were reduced for professional attendance at births.⁸ In some areas, midwives improved the nutritional status of women and infants,⁹ and a recent study in eastern Indonesia indicated reduction of early infant deaths associated with delivery by village midwives.¹⁰

However, after nearly 20 years of investment, the national maternal mortality ratio in 2003 was 307 per 100 000 livebirths⁷ and the neonatal mortality ratio was 20 per 1000 livebirths.⁷ Progress was made, but why was it not greater?

First, the push for rapid deployment of midwives compromised candidate selection and quality of training. In particular, the lack of clinical training and experience limited midwives' ability to manage complications with delivery.^{11,12} Second, supervision and mentoring of midwives was not adequate in all areas, with responsibility often falling to the head of the nearest primary care clinic. An antecedent to this was the plan for midwives to establish private practice and to receive salary and ministry of health oversight for only 3 years. However, midwife training did not include education in client interactions or working in the community. Ongoing lack of supervision coupled with diverse duties and unclear job descriptions meant that many midwives worked in isolation with few opportunities for job support or learning,¹³ thereby affecting retention as well.

Third, there was limited access and financial support for referral to emergency obstetric-care centres. Although provision of emergency care was not a formal mandate of the village-based midwife programme, it was one of the most important obstacles affecting access to life-saving emergency obstetric care in Indonesia.¹² Indonesia achieved a similar density of

skilled midwives to that in Malaysia and Sri Lanka, where reductions in maternal deaths were achieved, but it lagged in density of doctors, nurses, and referral facilities.¹³ Fourth, the unanticipated severe economic crisis in 1997 led to substantial declines in health expenditures,¹⁴ and subsequent decentralisation

Panel: Essential elements and monitoring points for scaling up skilled birth attendance

Support

- Governmental policy and resource allocation for support and empowerment of skilled attendants, particularly focusing on retention in rural and remote areas

Systems

- Clear and actionable strategy indicating how the programme will be supported by the existing health systems or how the system will be expanded to support the programme
- Adequate numbers of good, affordable emergency obstetric-care centres for referral
- Consistent supply of equipment and drugs

Sustainability

- Plan designed and implemented for programme from inception
- Regular assessment of viability

Training

- Initial training and in-service competency-based workshops of sufficient length and quality
- Trainees must show knowledge and competency in essential skills, especially emergency life-saving

Certification

- Regular licensing and competency-based certification at prespecified intervals by professional organisations or other third parties

Responsibilities

- Clear scope of work for skilled birth attendants

Realistic workload

- Attendants receive delegation of authority to perform life-saving functions
- Additional duties do not distract from mission of maternal and neonatal care

Supervision

- Regular supervision and mentoring built into the programme from inception
- Supervisors are trained in motivational and support strategies and avoid punitive approaches

Participation

- Clear, formalised community participation and engagement strategy designed and used, including participation in monitoring and evaluation of services

Monitoring

- Integrated and pervasive monitoring and evaluation process designed and integrated as routine programme implementation
- Analysis of information across the full spectrum of implementation from staff recruitment to health outcomes

Modification

- All programmes continually adjusted to changes in the environment
- Change management an expected part of the programme and informed by monitoring and assessment



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of political and financial power to districts in 2000 reduced influence of the Ministry of Health and further diminished health spending.¹⁵

Given the challenges, the measurable effects of the programme are testament to the dedication of midwives and the ongoing government commitment to address the problems. For example, training requirements were lengthened for new midwives, and short in-service training and skills-based retraining were provided.¹⁶ In some settings, clinical audits were used to improve quality of care and might have had substantial effect on community midwives as shown in South Kalimantan.¹⁷ In certain cases, extended salary support and formalised administrative oversight eased the transition to private practice, and insurance schemes targeting poor people helped improve access to care.¹⁸

What can we learn from the village-based midwife programme? This is not an exhaustive review, but there are several key points for programmes to scale up skilled birth attendance (panel). Perhaps most importantly, reduction of maternal and newborn mortality requires a health-systems approach that is both top-down (with clear policies, standards, and training) and bottom-up (from communities for participation, demand, and accountability). In addition to providing quality care for all births, affordable and accessible high quality emergency obstetric care is essential. Programmes should also aim to establish a platform that can readily adapt to advances in service standards and other community-based interventions.

Scale-up of services should be driven by local evidence, be tailored to conditions within each country and district, and be sustainable. The costs and benefits of scaling up community approaches, including all features of quality of care, supervision, and support, should be weighed for each location in comparison to other approaches, such as facility-based birth care.

Monitoring and assessment are integral to maintenance of quality of care while increasing skilled birth attendance. Ongoing, rather than episodic, monitoring should include not only the United Nations process indicators for emergency obstetric care but also routine use of clinical audits to improve service quality and build skills and job satisfaction for both providers and clients.¹⁹ Through such processes, programmes can be scaled up, optimised, and continue to be effective despite changing demands and resources.

For complex interventions such as skilled care at birth and emergency obstetric care, the priority should be on accessibility and quality of services, not only on numbers of personnel. Maintenance of fully skilled midwives in communities, rather than so called community midwives can be part of such a system, as originally envisioned in Indonesia, only if quality of implementation in scaling up and support is prioritised. The Indonesian experience should inform policy makers and programme planners in other countries to carefully weigh all options for scaling up of professional skilled care at birth before starting large programmes.

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We thank Ardi Kaptiningsih, Anita Shankar, Ann Starrs, Elizabeth Mason, and Nancy Terreri for their contributions. We declare that we have no conflict of interest.

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Getting political: fighting for global health

What if rather than maintaining the quixotic dream that global health not be political, we trained global-health practitioners to be savvy of international affairs to leverage mechanisms to advantage global health? What if we actively trained global-health partisans—health professionals trained specifically for the rigours of international politics—to smooth the way, work the backrooms, and strategically manoeuvre so that international public-health professionals can do what they do best: public health? What if these practitioners possessed in-depth understanding of foreign policy, international jurisprudence, and global security and were masterful enough to work health to the top of international affairs agendas not just during health crises, but every day?

What I am suggesting goes far beyond the usual advocacy that international public-health professionals are already quite good at. I suggest we develop the clout and expertise to influence the course of international affairs. We live in halcyon days of global public health, buoyed by the Gates-Buffett effect,¹ but there are some health outcomes that money will not be able to buy, because powerful nations actively pursue foreign-policy agendas detrimental to health. This new approach would be prevention of the highest order. Imagine influencing trade agreements at their inception so that the food security of millions is assured and shortages averted. Imagine knowing enough about world finance to change the international

financial institutions' conditions for loans that create health inequities. Imagine health as a human right with legal teeth, replacing the current mechanisms that require nation states to provide protections for their citizens, even when that same state is a perpetrator. Business as usual in these non-health settings has serious international public-health ramifications.² The business of high politics has not traditionally fallen within remit of what is understood as global health.^{3,4} But it should.

Public-health experts regularly champion cooperation as an endpoint toward which we should all be working. Cooperation is inarguably a powerful tool for the



management of global health, as the response to severe acute respiratory syndrome proved.⁵ But cooperation as a lone strategy for meeting all global-health objectives is naive when competition between states informs the dominant paradigm, realism, that has shaped relations from Whitehall to Washington for the past century. Realism in international affairs is not about seeing things as they really are, but rather refers to a philosophical doctrine that every international-relations undergraduate learns during their first semester: states are the primary agents in international affairs, states selfishly pursue their national interests, and sovereign states use laws and institutions to pursue these interests.⁶ In such a framework, health is expendable when other interests, such as national security, are perceived to be at risk.

Contrast the tenets of realism with today's global-health realities: porous national borders; weak and impoverished states struggling to provide health care; the "unruly mélange" of bilateral, multilateral, and non-governmental organisations⁷ standing in for states; foreign debt undermining health financing in poor nations; and multinational corporations that successfully defend patent protections for essential medicines. Global-health realities are at odds with the prevailing paradigm. International public-health professionals compound this problem if they have too little understanding of the mindsets (of which realism is only one), histories, and concomitant power structures behind foreign policy and international affairs. International public-health professionals too commonly assume that the value of good population health—to individual societies and to the global community—is

self-evident and that they should not really have to work too hard to compete with other agendas.

Today's global-health gap is political. We currently do not have enough people knowledgeable and experienced in the everyday politics of international affairs working for advantages that support global-health progress. Global health needs advocates who embrace and understand international realpolitik, of which global health is but a part.⁸ My argument is simple: cultivate foreign policy that helps rather than hinders improved global-health outcomes. This is distinguishable from the promotion of global-health policy,⁹ which is also necessary. Some global-health victories will depend on how well international politics are played.

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Delivering for women and children

The *Countdown to 2015* reports in today's *Lancet* show that the progress being made on Millennium Development Goals (MDGs) 4 and 5 is in line with projections but continues to be far too slow, especially for MDG 5. The report presents the results only up to 2006, and the increase in financial resources being allocated to these neglected areas is encouraging. Nevertheless, there is no question that more is required from all parties to reach these important goals.

The number of children who die of measles each year has now been reduced by half a million since 1999.

Routine immunisation coverage is above 80% for the first time in history, thanks to the efforts of the GAVI Alliance and its partners, among others. However, we need to make further progress by rapidly introducing vaccines against other major killers, such as rotavirus (which causes half a million deaths a year) and *Streptococcus pneumoniae* (which kills 800 000 children every year). This will be a key challenge for the GAVI Alliance, along with making immunisation services more widely available. In 2002, the UN adopted the target of providing life-saving vaccines to 90% of all children by 2010.¹

Insecticide-treated bednets and other vector-control methods have proven very successful in the prevention of malaria when applied on a large scale; in some countries, hospital wards for children with life-threatening malaria are now empty. Much good work is being done by the Global Fund to Fight AIDS, Tuberculosis and Malaria, the Bill & Melinda Gates Foundation, and the US Special Initiative on Malaria. When combined with national efforts, the work of these organisations will soon make it possible to save most of the 1 million children who die of malaria in Africa each year.

AIDS treatment is rapidly becoming more widely available, but treatment for pregnant women and the prevention of mother-to-child transmission are lagging behind. Here, key players, such as the Global Fund, UNICEF, WHO, and the President's Emergency Plan for AIDS Relief have a major task before them because 600 000 children are infected with HIV/AIDS by vertical transmission each year.

But if we continue these efforts with dedication and vigilance, we could save the lives of up to 4 million children each year.

A further 4 million newborns die annually within the first month of life, and their fate is intimately linked to their mothers' health.² Close to half of neonatal and maternal deaths result from complications during childbirth. In fact, the first day of anyone's life is the most decisive for survival.

A woman has the best chance of safe delivery when she is attended by a skilled midwife, nurse, or doctor. Specialist equipment and essential medicines should be available, as should transport to emergency obstetric or neonatal care if needed. Most deliveries should take place in health facilities that provide the good quality care needed; but unfortunately this is where progress has been slowest. In an ideal world, professional health workers would provide these services close to women's homes. However, this ideal is difficult to achieve, particularly where skilled people are in short supply and populations are dispersed across remote areas. Authorities must adopt new approaches to ensure that pregnant women are able to access the facilities that are available.

India is running a remarkable experiment that aims to increase greatly the number of poor women who give birth in public or private health facilities. The approach is simple: expectant mothers and their families are



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given money to meet transport and other expenses, and village health workers are paid a bonus for each woman they assist to a clinic. Early results have been impressive. The percentage of poor women who give birth in clinics has risen from 10–20% to 50–70% in less than 2 years in many areas. The Government is now responding to this surge in demand by improving both primary health facilities and the quality of emergency obstetric and newborn care.

This kind of innovation linking finance to results is needed to improve maternal and newborn care. Together with the World Bank, Norway has initiated a results-based funding scheme for MDGs 4 and 5. The interest in partner countries has been overwhelming. The funding needed to respond to this urgent need should be made available. As donors, it is our duty to ensure that our support is provided in such a way that partner countries have the flexibility they need to address both short-term and long-term challenges. The shortage of health workers is clearly one of them.

In September, 2007, I launched the Global Campaign for the Health MDGs together with other world leaders.³ This campaign encompasses several inter-related initiatives to accelerate progress on the health MDGs, and is seeking to find the best ways of achieving value for money and ensuring that the most vulnerable groups have access to essential services.

A cornerstone of the campaign is the International Health Partnership (IHP), initiated by the UK and facilitated by WHO and the World Bank, which aims to

improve the way that governments and aid agencies work together, reduce duplication, and ensure that the money goes further. The IHP global compact—signed by leaders, donors, and countries—constitutes a commitment to a new and better way of working and coordinating efforts to support national health plans. Thus the IHP is responding directly to the need for more stable financing and aid flows.

Other actions under the campaign include the Canadian-UNICEF-initiated Catalytic Initiative to save a million lives and the Providing for Health initiative led by Germany and France.^{3,4}

Political commitment is needed at the highest levels of government to ensure that priority is given to the protection and promotion of the health and wellbeing of all women and children, making the necessary changes and allocating the resources needed to provide basic health services. This is why I am seeking to bring together world leaders of exceptional vision in a Network of Global Leaders.^{3,4} So far this network includes nine heads of state and government (Brazil, Chile, Indonesia, Liberia, Mozambique, Norway, Senegal, Tanzania, and the UK) who have made personal commitments to improving maternal and child health in their countries and beyond. The President of Mozambique, Armando Guebuza, recently launched his Presidential Initiative for the Health of Mothers and Children, which includes giving priority to allocations for MDGs 4 and 5 in the national budget. On April 22, the President of Tanzania, Jakaya Kikwete, will launch Deliver Now for Women and Children in Dar es Salaam. This is his Government's plan for prioritising maternal and child health in Tanzania. The campaign is actively supported by civil society networks such as the White Ribbons Alliance, UN agencies, and other partners of the Partnership for Maternal, Newborn and Child Health.

The influence and actions of these leaders extend beyond the borders of their own countries. President Kikwete is currently chair of the African Union. Together with President Guebuza, he has ensured that MDGs 4 and 5 are on the agenda of the two next summits.

The President of Senegal, Abdoulaye Wade, who recently joined the network, used his strategic position as the host of the 11th Summit of the Organisation of the Islamic Conference in March to ask his peers to support a proposal to use the Islamic Development Bank's Fund for Poverty Reduction and Development for maternal and child health. President Michelle Bachelet of Chile and President Luiz Inácio Lula da Silva of Brazil will launch Deliver Now for Women and Children in Latin America later this year.

Japan will again host the G8 summit in July this year. I hope to see the same leadership that was demonstrated in Okinawa in 2000. I am encouraged by the strong commitment shown by the Japanese Government to leading the G8 effort to achieve all the health MDGs. Moreover, a day will be set aside at the UN General Assembly in September for a call to action on all the MDGs. I am truly committed to making 2008 a turning point for mothers and children throughout the world.

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I declare that I have no conflict of interest.

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