be substantially higher than the cost of a deduction.

To address the lack of incentives for low-income families, the President has proposed the Affordable Choices Initiative, under which states could use their Medicaid disproportionate-share money and certain federal grants to give low-income and vulnerable populations access to basic private insurance. This initiative represents a weak and uncertain response to a serious challenge.

A second concern is the inadequacy of the state-regulated individual insurance market, to which many more would turn if the new deduction accelerated the erosion of employer-sponsored insurance. To address this concern, states could be required to revise their individual insurance-market regulations to meet some minimum federal standards. Alternatively, those without employer-sponsored coverage could be permitted to buy either Medicare coverage or a plan offered through the Federal Employees Health Benefits Program.

The decision to index the proposed deduction to the CPI, which increases much more slowly than medical inflation and health insurance premiums, is a third dimension that has troubled critics. The deduction could be indexed to the medical care component of the CPI, although such an adjustment would still fail to accommodate real increases in health care spending. However, indexing the standard deduction at a higher rate would increase the proposal's cost substantially.

Although the President's proposals are unlikely to gain much traction in Congress, they could start a long-overdue discussion of the extent to which tax preferences should be used to encourage the purchase of health insurance and the forms that such encouragement should take. Any effort to make the tax treatment more rational, however, will come up against the entrenched interests of those who stand to lose. It would not, for instance, prove broadly acceptable to limit the tax subsidies granted for very expensive health insurance policies, because not all such policies provide "gold-plated" coverage: insurance premiums and health care spending in general depend on more than the generosity of one's insurance policy. Regional differences in health care prices, practice patterns, and patient preferences all affect the cost of insurance, as do the size, average age, and health risks of the group with which one is pooled. These complexities will make it difficult to move down the path prescribed by the President absent universal access to national plans such as the Federal Employees Health Benefits Program.

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An interview with Congressman Pete Stark (D-CA) and Senator Chuck Grassley (R-IA) can be heard at www.nejm.org.

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Making Motherhood Safe in Developing Countries

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This year marks the 20th anniversary of the Safe Motherhood Conference in Nairobi, an event that launched a global initiative to reduce maternal mortality in developing countries. At that time, maternal and child health programs focused primarily on the health of infants and young children.[1] Providing pregnant women with lifesaving medical care was thought to require high technology at large hospitals, and policymakers thought it more feasible to reduce child mortality with preventive measures such as immunization, oral rehydration, and breast-feeding. The conference spotlighted the number of pregnant women dying each year and issued a call to action. So, how far have we come in the past 20 years?

Tracking changes in maternal mortality in developing countries can be difficult, because the data are unreliable. Vital-registration systems in rural areas of most developing countries are deficient, and surveys produce estimates with wide margins of uncertainty. By all accounts, however, progress in reducing maternal mortality has been very slow. The vast majority of maternal deaths are due to direct obstetrical complications, including hemorrhage, infection, eclampsia, obstructed labor, and unsafe abortion. An estimated 500,000 or more women still die

Estimates of Maternal Mortality, 2000.*

Region	Maternal Mortality Ratio	Maternal Deaths	Lifetime Risk of Maternal Death
	no. of deaths/ 100,000 live births	*no.*	
World total	400	529,000	1 in 74
Developed regions	20	2,500	1 in 2800
Europe	24	1,700	1 in 2400
United States	17	660	1 in 2500
Developing regions	440	527,000	1 in 61
Africa	830	251,000	1 in 20
Northern Africa	130	4,600	1 in 210
Sub-Saharan Africa	920	247,000	1 in 16
Asia	330	253,000	1 in 94
East Asia	55	11,000	1 in 840
South Central Asia	520	207,000	1 in 46
Southeast Asia	210	25,000	1 in 140
West Asia	190	9,800	1 in 120
Latin America and the Caribbean	190	22,000	1 in 160
Oceania	240	530	1 in 83

* Data are from the World Health Organization (WHO).[2] According to the WHO, the maternal mortality ratio is a measure of the risk of death after a woman has become pregnant, and the lifetime risk of maternal death takes into account the probabilities of becoming pregnant and of dying as a result of pregnancy cumulated over a woman's reproductive years. Developed regions include, in addition to Europe and the United States, Canada, Japan, Australia, and New Zealand, which are excluded from the regional totals.

each year from complications of pregnancy and childbirth, 95% of them in Africa and Asia.[2] A comparison of the level of risk in various regions reveals glaring disparities (see table). The lifetime risk of dying during pregnancy is 1 in 16 in sub-Saharan Africa, as compared with 1 in 2800 in developed regions. This differential is one of the widest among indicators of public health status. Wide disparities in maternal mortality also exist within countries, often in association with differences in wealth or other dimensions of social advantage.

But deaths are only part of the tragedy. For every woman who dies, at least 30 others are injured. Many of the injuries are disabling and, in the case of obstetrical fistula, socially devastating. Obstetrical fistula, caused by prolonged obstructed labor, is a hole in the bladder or rectum opening into the vagina, through which urine or feces leak uncontrollably. It is most common in poor communities in sub-Saharan Africa and South Asia, where access to maternal health services is limited. Women with obstetrical fistulas are often turned out by their families and communities and forced into isolation. The shame surrounding this condition makes it difficult to estimate its prevalence reliably; at least 2 million women in developing countries are living with obstetrical fistulas, and 50,000 to 100,000 new cases occur each year, but these figures probably underestimate the problem.[3]

Unfortunately, the Safe Motherhood Initiative initially took a few strategic missteps. Emphasis was placed on antenatal care, including screening for risk factors, and on training traditional birth attendants to use safe, hygienic practices. Neither approach had any real effect on maternal mortality. Many obstetrical complications cannot be predicted or prevented. Screening can identify women with certain risk factors (e.g., young age or high parity), but the majority of obstetrical complications occur in women categorized as having low risk. Although most deliveries in high-mortality settings take place at home, often with traditional birth attendants present, there is little that even trained traditional birth attendants can do by themselves to save women's lives when serious complications develop.

Today, strategies are more appropriately focused. It is essential that pregnant women in whom complications develop have access to the medical interventions of emergency obstetrical care. Programs to make such care more widely available involve upgrading rural health centers and referral hospitals and stocking them with the necessary drugs, supplies, and equipment, such as magnesium sulfate for eclampsia, antibiotics for infection, and basic surgical equipment for cesarean sections. Efforts also include training cadres of health care workers and developing strong referral systems between communities and health care facilities, since delays in care can be life-threatening. A referral system includes means of communication and transport as well as mechanisms for ensuring that referral facilities are able to provide services at all hours. When a functioning health care system is in place, some interventions at the community level, such as the use of misoprostol to strengthen contractions, help expel the placenta, and control bleeding before transfer to a health care facility, could

contribute to significant reductions in maternal mortality.

An effort is also under way to ensure that all pregnant women have a skilled attendant at delivery — an accredited health care professional (e.g., a doctor, midwife, or nurse) who can conduct normal deliveries, identify and manage complications, and refer women to the next level of care. To be effective, skilled attendants must have access to drugs and equipment and must be backed by an infrastructure that includes referral systems and good-quality health facilities.

Innovative projects are in progress in a number of countries, involving United Nations agencies, nonprofit organizations, academic institutions, nongovernmental organizations, professional societies, and governments. A major constraint on increasing access to lifesaving services is the severe shortage of skilled health care workers in developing countries, especially in rural areas. However, highly trained specialists are not necessary. Well-trained nurses and midwives can provide basic emergency obstetrical services, such as assisted vaginal delivery and the administration of antibiotics and other drugs. In Mozambique, the Ministry of Health has trained assistant medical officers (nonphysicians) to become surgical technicians and safely perform emergency obstetrical surgery, including cesarean deliveries. These "técnicos de cirurgia" now perform most emergency obstetrical surgery in rural hospitals. A similar approach is being implemented in Tanzania and Malawi. In India, general practice physicians are being trained to perform cesarean deliveries and administer anesthesia, with the support of the Federation of Obstetrics and Gynaecological Societies of India. Maximizing the potential of alternative types of health care workers will require this kind of leadership and cooperation on the part of professional societies.

Another major constraint is the cost of obtaining care. Even where services are officially free, patients in low-resource countries often incur catastrophic costs to obtain the care they need in order to survive. These costs include those of purchasing supplies and drugs in the market because they are unavailable in the facility, securing transport to the facility, and making "informal" payments often required to actually receive care once the patient, supplies, and providers are in place. For ministries of health struggling to strengthen their health care systems and address inequity, resources often fall well short of the minimum levels needed.

Access to emergency obstetrical care is essential to efforts to reduce maternal mortality. Several countries have demonstrated that great strides can be made when maternal health is a political priority. In Sri Lanka and Malaysia, maternal mortality ratios in the early 1950s were more than 500 deaths per 100,000 live births. In subsequent decades, both countries were able to halve these ratios every 6 to 12 years.[4] Strategies evolved over time and included professionalizing midwifery, ensuring skilled attendance at childbirth, and developing a system of health care facilities accessible to all women. Thailand, Egypt, and Honduras have also achieved substantial reductions in maternal mortality.[5]

Unlike the situation 20 years ago, improving maternal health is now high on the global development agenda. One of the eight United Nations Millennium Development Goals embraced by 189 countries in 2000 is to reduce the maternal mortality ratio by 75% by 2015. Most African and some Asian countries are not on track to meet this target, but efforts should continue unabated. Policymakers and health care professionals must continue learning from successful, and unsuccessful, program models and work to scale up effective approaches. To make such expansion possible, donors must substantially increase funding for maternal health programs and research, and the governments of developing countries must establish supportive policies. Although every country has its own history and challenges, accelerating progress is not impossible if political will can be translated into action.

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