Overview

Over the past forty years life expectancy has improved more than during the entire previous span of human history. In 1950 life expectancy in developing countries was forty years; by 1990 it had increased to sixty-three years. In 1950 twenty-eight of every 100 children died before their fifth birthday; by 1990 the number had fallen to ten. Smallpox, which killed more than 5 million annually in the early 1950s, has been eradicated entirely. Vaccines have drastically reduced the occurrence of measles and polio. Not only do these improvements translate into direct and significant gains in well-being, but they also reduce the economic burden imposed by unhealthy workers and sick or absent schoolchildren. These successes have come about in part because of growing incomes and increasing education around the globe and in part because of governments' efforts to expand health services, which, moreover, have been enriched by technological progress.

Despite these remarkable improvements, enormous health problems remain. Absolute levels of mortality in developing countries remain unacceptably high: child mortality rates are about ten times higher than those in the established market economies. If death rates among children in poor countries were reduced to those prevailing in the rich countries, 11 million fewer children would die each year. Almost half of these preventable deaths are a result of diarrheal and respiratory illness, exacerbated by malnutrition. In addition, every year 7 million adults die of conditions that could be inexpensively prevented or cured; tuberculosis alone causes 2 million of these deaths. About 400,000 women die from the direct complications of pregnancy and childbirth. Maternal mortality ratios are, on average, thirty times as high in developing countries as in high-income countries.

Although health has improved even in the poorest countries, the pace of progress has been uneven. In 1960 in Ghana and Indonesia about one child in five died before reaching age 5—a child mortality rate typical of many developing countries. By 1990 Indonesia's rate had dropped to about one-half the 1960 level, but Ghana's had fallen only slightly. Table 1 provides a summary of regional progress in mortality reduction between 1975 and 1990. (Figure 1 illustrates the demographic regions used in Table 1 and frequently throughout this Report.)

In addition to premature mortality, a substantial portion of the burden of disease consists of disability, ranging from polio-related paralysis to blindness to the suffering brought about by severe psychosis. To measure the burden of disease, this Report uses the disability-adjusted life year (DALY), a measure that combines healthy life years lost because of premature mortality with those lost as a result of disability.

There is huge variation in per person loss of DALYs across regions, mainly because of differences in premature mortality; regional differences in loss of DALYs as a result of disability are much smaller (Figure 2). The total loss of DALYs is referred to as the global burden of disease.

The world is facing serious new health challenges. By 2000 the growing toll from acquired immune deficiency syndrome (AIDS) in developing countries could easily rise to more than 1.8 million deaths annually, erasing decades of hard-won reductions in mortality. The malaria parasite's increased resistance to available drugs could lead to
The first six regions named in the key are at intermediate stages of the demographic transition.

Figure 1 Demographic regions used in this Report

Table 1 Population, economic indicators, and progress in health by demographic region, 1975–90

<table>
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<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>510</td>
<td>7.9</td>
<td>510</td>
<td>-1.0</td>
<td>212</td>
<td>175</td>
<td>48</td>
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<td>India</td>
<td>850</td>
<td>9.3</td>
<td>360</td>
<td>2.5</td>
<td>195</td>
<td>127</td>
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<tr>
<td>China</td>
<td>1,134</td>
<td>8.9</td>
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<td>7.4</td>
<td>85</td>
<td>43</td>
<td>56</td>
<td>69</td>
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<tr>
<td>Other Asia and islands</td>
<td>683</td>
<td>5.5</td>
<td>1,320</td>
<td>4.6</td>
<td>135</td>
<td>97</td>
<td>56</td>
<td>62</td>
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<tr>
<td>Latin America and the Caribbean</td>
<td>444</td>
<td>3.0</td>
<td>2,190</td>
<td>-0.1</td>
<td>104</td>
<td>60</td>
<td>62</td>
<td>70</td>
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<tr>
<td>Middle Eastern crescent</td>
<td>503</td>
<td>4.4</td>
<td>1,720</td>
<td>-1.3</td>
<td>174</td>
<td>111</td>
<td>52</td>
<td>61</td>
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<tr>
<td>Formerly socialist economies of Europe (FSE)</td>
<td>346</td>
<td>3.8</td>
<td>2,850</td>
<td>0.5</td>
<td>36</td>
<td>22</td>
<td>70</td>
<td>72</td>
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<tr>
<td>Established market economies (EME)</td>
<td>798</td>
<td>7.1</td>
<td>19,900</td>
<td>2.2</td>
<td>21</td>
<td>11</td>
<td>73</td>
<td>76</td>
</tr>
<tr>
<td>Demographically developing group(^a)</td>
<td>4,123</td>
<td>39.1</td>
<td>900</td>
<td>3.0</td>
<td>152</td>
<td>106</td>
<td>56</td>
<td>63</td>
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<tr>
<td>FSE and EME</td>
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<td>14,690</td>
<td>1.7</td>
<td>25</td>
<td>15</td>
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<tr>
<td>World</td>
<td>5,267</td>
<td>50.0</td>
<td>4,000</td>
<td>1.2</td>
<td>135</td>
<td>96</td>
<td>60</td>
<td>65</td>
</tr>
</tbody>
</table>

Note: Child mortality is the probability of dying between birth and age 5, expressed per 1,000 live births; life expectancy at birth is the average number of years that a person would expect to live at the prevailing age-specific mortality rates.

\(^a\) The countries of the demographic regions Sub-Saharan Africa, India, China, Other Asia and islands, Latin America and the Caribbean, and Middle Eastern crescent.

Source: For income per capita, World Bank data; for other items, Appendix A.
a doubling of malaria deaths, to nearly 2 million a year within a decade. Rapid progress in reducing child mortality and fertility rates will create new demands on health care systems as the aging of populations brings to the fore costly noncommunicable diseases of adults and the elderly. Tobacco-related deaths from heart disease and cancers alone are likely to double by the first decade of the next century, to 2 million a year, and, if present smoking patterns continue, they will grow to more than 12 million a year in developing countries in the second quarter of the next century.

Health systems and their problems

Although health services are only one factor in explaining past successes, the importance of their role in the developing world is not in doubt. Public health measures brought about the eradication of smallpox and have been central to the reduction in deaths caused by vaccine-preventable childhood diseases. Expanded and improved clinical care has saved millions of lives from infectious diseases and injuries. But there are also major problems with health systems that, if not resolved, will hamper progress in reducing the burden of premature mortality and disability and frustrate efforts to respond to new health challenges and emerging disease threats.

- Misallocation. Public money is spent on health interventions of low cost-effectiveness, such as surgery for most cancers, at the same time that critical and highly cost-effective interventions, such as treatment of tuberculosis and sexually

The disease burden is highest in poor countries, but disability remains a problem in all regions.

Figure 2 Burden of disease attributable to premature mortality and disability, by demographic region, 1990

![Figure 2 Burden of disease attributable to premature mortality and disability, by demographic region, 1990](image)

Source: Appendix B.
transmitted diseases (STDs), remain underfunded. In some countries a single teaching hospital can absorb 20 percent or more of the budget of the ministry of health, even though almost all cost-effective interventions are best delivered at lower-level facilities.

- **Inequity.** The poor lack access to basic health services and receive low-quality care. Government spending for health goes disproportionately to the affluent in the form of free or below-cost care in sophisticated public tertiary care hospitals and subsidies to private and public insurance.

- **Inefficiency.** Much of the money spent on health is wasted: brand-name pharmaceuticals are purchased instead of generic drugs, health workers are badly deployed and supervised, and hospital beds are underutilized.

- **Exploding costs.** In some middle-income developing countries health care expenditures are growing much faster than income. Increasing numbers of general physicians and specialists, the availability of new medical technologies, and expanding health insurance linked to fee-for-service payments together generate a rapidly growing demand for costly tests, procedures, and treatments.

World health spending—and thus also the potential for misallocation, waste, and inequitable distribution of resources—is huge. For the world as a whole in 1990, public and private expenditure on health services was about $1,700 billion, or 8 percent of total world product. High-income countries spent almost 90 percent of this amount, for an average of $1,500 per person. The United States alone consumed 41 percent of the global total—more than 12 percent of its gross national product (GNP). Developing countries spent about $170 billion, or 4 percent of their GNP, for an average of $41 per person—less than one-thirtieth the amount spent by rich countries.

In the **low-income countries** government hospitals and clinics, which account for the greatest part of the modern medical care provided, are often inefficient, suffering from highly centralized decision-making, wide fluctuations in budgetary allocations, and poor motivation of facility managers and health care workers. Private providers—mainly religious nongovernmental organizations (NGOs) in Africa and private doctors and unlicensed practitioners in South Asia—are often more technically efficient than the public sector and offer a service that is perceived to be of higher quality, but they are not supported by government policies. In low-income countries the poor often lose out in health because public spending in the sector is heavily skewed toward high-cost hospital services that disproportionately benefit better-off urban groups. In Indonesia, despite concerted government efforts in the 1980s to improve health services for the poor, government subsidies to health for the richest 10 percent of households in 1990 were still almost three times the subsidies going to the poorest 10 percent of Indonesians.

In **middle-income countries** governments frequently subsidize insurance that protects only the relatively wealthy—a small, affluent minority in the case of private insurance in South Africa and Zimbabwe and, in Latin America, the larger industrial labor force covered by compulsory public insurance (so-called social insurance). The bulk of the population, especially the poor, relies heavily on out-of-pocket payments and on government services that may be largely inaccessible to them. In Peru, for example, more than 60 percent of the poor have to travel for more than an hour to obtain primary health care, as compared with less than 3 percent of the better-off. The quality of care is also low: drugs and equipment are in short supply; patient waiting times are long and medical consultations are short; and misdiagnoses and inappropriate treatment are common.

In the **formerly socialist economies**, where governments have historically been responsible for both the financing and the delivery of health care, health care is free in principle, and wide coverage of the population has been achieved. This has led to greater apparent equity. But in reality, better-off consumers make informal out-of-pocket payments to get better care: about 25 percent of health costs in Romania and 20 percent in Hungary, for example, are under-the-table payments for pharmaceuticals and gratuities to health care providers. Inequity is also widespread because the government-run health system is highly centralized, bureaucratic, and unresponsive to citizens. Governments have been slow to regulate workplace safety and environmental pollution and have failed to mount effective campaigns against unhealthy personal behaviors—especially alcohol consumption and cigarette smoking. In recent years real government spending for health has fallen dramatically in the course of the transition to more market-oriented economies. The public sector has suffered from serious shortages of drugs and equipment and a lack of skills to manage changing health institutions. The consequences have been declining staff morale and falling quality of care.
The roles of the government and of the market in health

Three rationales for a major government role in the health sector should guide the reform of health systems.

• Many health-related services such as information and control of contagious disease are public goods. One person’s use of health information does not leave less available for others to consume; one person cannot benefit from control of malaria-carrying mosquitoes while another person in the same area is excluded. Because private markets alone provide too little of the public goods crucial for health, government involvement is necessary to increase the supply of these goods. Other health services have large externalities: consumption by one individual affects others. Immunizing a child slows transmission of measles and other diseases, conferring a positive externality. Polluters and drunk drivers create negative health externalities. Governments need to encourage behaviors that carry positive externalities and to discourage those with negative externalities.

• Provision of cost-effective health services to the poor is an effective and socially acceptable approach to poverty reduction. Most countries view access to basic health care as a human right. This perspective is embodied in the goal, “Health for All by the Year 2000,” of the conference held by the World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF) at Alma-Ata in 1978, which launched today’s primary health care movement. Private markets will not give the poor adequate access to essential clinical services or the insurance often needed to pay for such services. Public finance of essential clinical care is thus justified to alleviate poverty. Such public funding can take several forms: subsidies to private providers and NGOs that serve the poor; vouchers that the poor can take to a provider of their choice; and free or below-cost delivery of public services to the poor.

• Government action may be needed to compensate for problems generated by uncertainty and insurance market failure. The great uncertainties surrounding the probability of illness and the efficacy of care give rise both to strong demand for insurance and to shortcomings in the operation of private markets. One reason why markets may work poorly is that variations in health risk create incentives for insurance companies to refuse to insure the very people who most need health insurance—those who are already sick or are likely to become ill. A second has to do with “moral hazard”: insurance reduces the incentives for individuals to avoid risk and expense by prudent behavior and can create both incentives and opportunities for doctors and hospitals to give patients more care than they need. A third has to do with the asymmetry in information between provider and patient concerning the outcomes of intervention; providers advise patients on choice of treatment, and when the providers’ income is linked to this advice, excessive treatment can result. As a consequence of these last two considerations, in unregulated private markets costs escalate without appreciable health gains to the patient. Governments have an important role to play in regulating privately provided health insurance, or in mandating alternatives such as social insurance, in order to ensure widespread coverage and hold down costs.

If governments do intervene, they must do so intelligently, or they risk exacerbating the very problems they are trying to solve. When governments become directly involved in the health sector—by providing public health programs or financing essential clinical services for the poor—policymakers face difficult decisions concerning the allocation of public resources. For any given amount of total spending, taxpayers and, in some countries, donors want to see maximum health gain for the money spent. An important source of guidance for achieving value for money in health spending is a measure of the cost-effectiveness of different health interventions and medical procedures—that is, the ratio of costs to health benefits (DALYs gained).

Until recently, little has been done to apply cost-effectiveness analysis to health. This is, in part, because it is difficult. Cost and effectiveness data on health interventions are often weak. Costs vary between countries and can rise or fall sharply as a service is expanded. Some groups of interventions are provided jointly, and their costs are shared. Nonetheless, cost-effectiveness analysis is already demonstrating its usefulness as a tool for choosing among possible health interventions in individual countries and for addressing specific health problems such as the spread of AIDS.

Just because a particular intervention is cost-effective does not mean that public funds should be spent on it. Households can buy health care with their own money and, when well informed, may do this better than governments can do it for them. But households also seek value for money, and governments, by making information about cost-effectiveness available, can often help im-
Box 1  Investing in health: key messages of this Report

This Report proposes a three-pronged approach to government policies for improving health.

Foster an environment that enables households to improve health

Household decisions shape health, but these decisions are constrained by the income and education of household members. In addition to promoting overall economic growth, governments can help to improve those decisions if they:

- Pursue economic growth policies that will benefit the poor (including, where necessary, adjustment policies that preserve cost-effective health expenditures)
- Expand investment in schooling, particularly for girls
- Promote the rights and status of women through political and economic empowerment and legal protection against abuse.

Improve government spending on health

The challenge for most governments is to concentrate resources on compensating for market failures and efficiently financing services that will particularly benefit the poor. Several directions for policy respond to this challenge:

- Reduce government expenditures on tertiary facilities, specialist training, and interventions that provide little health gain for the money spent.
- Finance and implement a package of public health interventions to deal with the substantial externalities surrounding infectious disease control, prevention of AIDS, environmental pollution, and behaviors (such as drunk driving) that put others at risk.
- Finance and ensure delivery of a package of essential clinical services. The comprehensiveness and composition of such a package can only be defined by each country, taking into account epidemiological conditions, local preferences, and income. In most countries public finance, or publicly mandated finance, of the essential clinical package would provide a politically acceptable mechanism for distributing both welfare improvements and a productive asset—better health—to the poor.
- Improve management of government health services through such measures as decentralization of administrative and budgetary authority and contracting out of services.

Promote diversity and competition

Government finance of public health and of a nationally defined package of essential clinical services would leave the remaining clinical services to be financed privately or by social insurance within the context of a policy framework established by the government. Governments can promote diversity and competition in provision of health services and insurance by adopting policies that:

- Encourage social or private insurance (with regulatory incentives for equitable access and cost containment) for clinical services outside the essential package.
- Encourage suppliers (both public and private) to compete both to deliver clinical services and to provide inputs, such as drugs, to publicly and privately financed health services. Domestic suppliers should not be protected from international competition.
- Generate and disseminate information on provider performance, on essential equipment and drugs, on the costs and effectiveness of interventions, and on the accreditation status of institutions and providers.

Increased scientific knowledge has accounted for much of the dramatic improvement in health that has occurred in this century—by providing information that forms the basis of household and government action and by underpinning the development of preventive, curative, and diagnostic technologies. Investment in continued scientific advance will amplify the effectiveness of each element of the three-pronged approach proposed in this Report. Because the fruits of science benefit all countries, internationally collaborative efforts, of which there are several excellent examples, will often be the right way to proceed.

Government policies for achieving health for all

This Report focuses primarily on the relation between policy choices, both inside and outside the health sector, and health outcomes, especially for the poor. Box 1 summarizes the Report’s three key messages for government policy and notes the importance of continued investment in scientific advance.

- Since overall economic growth—particularly poverty-reducing growth—and education are central to good health, governments need to pursue sound macroeconomic policies that emphasize reduction of poverty. They also need to expand basic schooling, especially for girls, because the way in which households, particularly mothers, use information and financial resources to shape their
dietary, fertility, health care, and other life-style choices has a powerful influence on the health of household members.

- Governments in developing countries should spend far less—on average, about 50 percent less—than they now do on less cost-effective interventions and instead double or triple spending on basic public health programs such as immunizations and AIDS prevention and on essential clinical services. A minimum package of essential clinical services would include sick-child care, family planning, prenatal and delivery care, and treatment for tuberculosis and STDs. Low-income countries would have to redirect current public spending for health and increase expenditures (by government, donors, and patients) to meet needs for public health and the minimum package of essential clinical services for their populations; less reallocation would be needed in middle-income countries. Tertiary care and less cost-effective services will continue, but public subsidies to them, if they mainly benefit the wealthy, should be phased out during a transitional period.

- Because competition can improve quality and drive down costs, governments should foster competition and diversity in the supply of health services and inputs, particularly drugs, supplies, and equipment. This could include, where feasible, private supply of health care services paid for by governments or social insurance. There is also considerable scope for improving the quality and efficiency of government health services through a combination of decentralization, performance-based incentives for managers and clinicians, and related training and development of management systems. Exposing the public sector to competition with private suppliers can help to spur such improvements. Strong government regulation is also crucial, including regulation of privately delivered health services to ensure safety and quality and of private insurance to encourage universal access to coverage and to discourage practices—such as fee-for-service payment to providers reimbursed by a “third-party” insurer—that lead to overuse of services and escalation of costs.

**Improving the economic environment for healthy households**

Advances in income and education have allowed households almost everywhere to improve their health. In the 1980s, even in countries in which average incomes fell, death rates of children under age 5 declined by almost 30 percent. But the child mortality rate fell more than twice as much in countries in which average incomes rose by more than 1 percent a year. Economic policies conducive to sustained growth are thus among the most important measures governments can take to improve their citizens’ health.

Of these economic policies, increasing the income of those in poverty is the most efficacious for improving health. The reason is that the poor are most likely to spend additional income in ways that enhance their health: improving their diet, obtaining safe water, and upgrading sanitation and housing. And the poor have the greatest remaining health needs, as Figure 3 illustrates for Porto Alegre, Brazil. Government policies that promote equity and growth together will therefore be better for health than those that promote growth alone.

In the 1980s many countries undertook macroeconomic stabilization and adjustment programs.
designed to deal with severe economic imbalances and move the countries onto sustainable growth paths. Such adjustment is clearly needed for long-run health gains. But during the transitional period, and especially in the earliest adjustment programs, recession and cuts in public spending slowed improvements in health. This effect was less than originally feared, however—in part because earlier expenditures for improving health and education had enduring effects. As a result of this experience, most countries’ adjustment programs today try to rationalize overall government spending while maintaining cost-effective expenditures in health and education. Despite these improvements, much is still to be learned about more efficient ways of carrying out stabilization and adjustment programs while protecting the poor.

Policies to expand schooling are also crucial for promoting health. People who have had more schooling seek and utilize health information more effectively than those with little or no schooling. This means that rapid expansion of educational opportunities—in part by setting a high minimum standard of schooling (say, six full years) for all—is a cost-effective way of improving health. Education of girls and women is particularly beneficial to household health because it is largely women who buy and prepare food, maintain a clean home, care for children and the elderly, and initiate contacts with the health system. Beyond education, government policies that support the rights and economic opportunities of women also contribute to overall household well-being and better health.

Investing in public health and essential clinical services

The health gain per dollar spent varies enormously across the range of interventions currently financed by governments. Redirecting resources from interventions that have high costs per DALY gained to those that cost little could dramatically reduce the burden of disease without increasing expenditures. A limited package of public health measures and essential clinical interventions is a top priority for government finance; some governments may wish, after covering that minimum for everyone, to define their national essential package more broadly.

**Public health**

Government action in many areas of public health has already had an important payoff. Immunizations are currently saving an estimated 3 million lives a year. Social marketing of condoms to prevent transmission of human immunodeficiency virus (HIV) has proved highly successful in Uganda, Zaire, and elsewhere. Information on the risks of smoking, and taxes on both tobacco and alcohol, are changing behavior in some countries—although mostly, so far, in the richer countries.

Governments need to expand these efforts and to move forward with other promising public health initiatives. Several activities stand out because they are highly cost-effective: the cost of gaining one DALY can be remarkably low—sometimes less than $25 and often between $50 and $150. Activities in this category include:

- Immunizations
- School-based health services
- Information and selected services for family planning and nutrition
- Programs to reduce tobacco and alcohol consumption
- Regulatory action, information, and limited public investments to improve the household environment
- AIDS prevention.

Intensified government support is required to extend the Expanded Programme on Immunization (EPI), which currently protects about 80 percent of the children in the developing world against six major diseases at a cost of about $1.4 billion a year. Expanding EPI coverage to 95 percent of all children would have a significant impact on children in poor households, who make up a disproportionately large share of those not yet reached by the EPI. Other vaccines, particularly those for hepatitis B and yellow fever, could be added to the six currently included in the EPI, as could vitamin A and iodine supplements. In most developing countries such an “EPI Plus” cluster of interventions in the first year of life would have the highest cost-effectiveness of any health measure available in the world today.

A second high priority for governments should be to provide inexpensive and highly efficacious medications to treat school-age children afflicted with schistosomiasis, intestinal worm infections, and micronutrient deficiencies. Treatment of these conditions through distribution of medications and micronutrient supplements in schools would greatly improve the health, school attendance, and learning achievement of hundreds of millions of children, at a cost of $1 to $2 per child per year. In addition to treatment, schoolchildren can be taught by their teachers or by radio about the hu-
man body and about avoiding risks to health—for example, from smoking or unsafe sex.

Governments need to encourage healthier behaviors on the part of individuals and households by providing information on the benefits of breastfeeding and on how to improve children’s diets. Programs in Colombia, Indonesia, and elsewhere show the potential for success. Information on the benefits of family planning and on the availability of family planning services is also critical. Government dissemination of this information can take a number of creative forms, as the effective use of radio drama and folk theater in Kenya and Zimbabwe demonstrates.

Measures to control the use of tobacco, alcohol, and other addictive substances—through information campaigns, taxes, bans on advertising, and, in certain cases, import controls—can help substantially to reduce chronic lung disease, heart disease, cancer, and injuries. Unless smoking behavior changes, three decades from now premature deaths caused by tobacco in the developing world will exceed the expected deaths from AIDS, tuberculosis, and complications of childbirth combined.

Governments must do more to promote a healthier environment, especially for the poor, who face greatly increased health risks from poor sanitation, insufficient and unsafe water supplies, poor personal and food hygiene, inadequate garbage disposal, indoor air pollution, and crowded and inferior housing. Collectively, these risks are associated with nearly 30 percent of the global burden of disease. To help the poor improve their household environments, governments can provide a regulatory and administrative framework within which efficient and accountable providers (often in the private sector) have an incentive to offer households the services they want and are willing to pay for, including water supply, sanitation, garbage collection, clean-burning stoves, and housing. The government has a vital role in disseminating information about hygienic practices. It can also improve the use of public resources by eliminating widespread subsidies for water and sanitation that benefit the middle class. Government legislation and regulations to increase security of land tenure for the poor would encourage low-income families to invest more in safer, healthier housing.

A special challenge for concerted public health action is to reduce the spread of AIDS. The AIDS epidemic has already become a dominant public health concern in many countries. Although HIV, the virus that causes AIDS, has only recently be-
ened efforts could prevent most of the almost half-million maternal deaths that occur each year in developing countries.

- Family planning services; improved access to these services could save as many as 850,000 children from dying every year and eliminate as many as 100,000 of the maternal deaths that occur annually.
- Tuberculosis control, mainly through drug therapy, to combat a disease that kills more than 2 million people annually, making it the leading cause of death among adults.
- Control of STDs, which account for more than 250 million new cases of debilitating and sometimes fatal illness each year.
- Care for the common serious illnesses of young children—diarrheal disease, acute respiratory infection, measles, malaria, and acute malnutrition—which account for nearly 7 million child deaths annually.

These clinical interventions are all highly cost-effective—often costing substantially less than $50 per DALY gained.

A minimal package of essential clinical services would also include some treatment for minor infection and trauma and, for health problems that cannot be fully resolved with existing resources, advice and alleviation of pain. The provision of hospital-based emergency care other than the interventions mentioned above would depend on day-to-day capacity and availability of resources. This emergency care includes, for example, treatment of most fractures, as well as appendectomies. Depending on resource availability and social values, some countries may define their essential clinical package to include a much broader range of interventions than this minimum. At modest increases in spending, relatively cost-effective measures for the treatment of some common noncommunicable conditions could be included. Examples are low-cost protocols for treatment of heart disease using aspirin and antihypertensive drugs; treatment for cervical cancer; drug treatment of some psychoses; and removal of cataracts.

Many health services have such low cost-effectiveness that governments will need to consider excluding them from the essential clinical package. In low-income countries these might include heart surgery; treatment (other than pain relief) of highly fatal cancers of the lung, liver, and stomach; expensive drug therapies for HIV infection; and intensive care for severely premature babies. It is hard to justify using government funds for these medical treatments at the same time that much more cost-effective services which benefit mainly the poor are not adequately financed.

Widespread adoption of an essential clinical package would have a tremendous positive impact on the health of people in developing countries. If 80 percent of the population were reached, 24 percent of the current burden of disease in low-income countries and 11 percent of that in middle-income countries could be averted (Table 2). The estimated impact of implementing the minimum clinical services is more than twice that for the public health package outlined above; when combined with the public health package, the share of current illness that could be eliminated rises to perhaps 32 percent for low-income countries and 15 percent for middle-income countries. This reduction in disease is equivalent, in terms of DALYs

| Table 2 Estimated costs and health benefits of the minimum package of public health and essential clinical services in low- and middle-income countries, 1990 |
|---|---|---|---|
| **Group** | **Cost (dollars per capita per year)** | **Cost as a percentage of income per capita** | **Approximate reduction in burden of disease (percent)** |
| **Low-income countries** | | | |
| (Income per capita = $350) | | | |
| Public health | 4.2 | 1.2 | 8 |
| Essential clinical services<sup>a</sup> | 7.8 | 2.2 | 24 |
| Total | 12.0 | 3.4 | 32 |
| **Middle-income countries** | | | |
| (Income per capita = $2,500) | | | |
| Public health | 6.8 | 0.3 | 4 |
| Essential clinical services<sup>a</sup> | 14.7 | 0.6 | 11 |
| Total | 21.5 | 0.9 | 15 |

<sup>a</sup> The estimated costs and benefits are for a minimum essential package of clinical services, as defined in the text. Many countries may wish, if they have the resources, to define their essential clinical package more broadly.

gained, to saving the lives of more than 9 million infants each year.

**Paying for the package**

The most sophisticated facility required to deliver the minimum elements of the essential clinical package is a district hospital. Providing services in lower-level facilities allows costs to be contained at modest levels for minimal versions of the essential clinical package. The cost is about $8 per person each year in low-income countries and $15 in middle-income countries. The cost differences are the result of distinct demographic structures, epidemiological conditions, and labor costs in the two settings. When the cost of the public health interventions described above is added, total costs rise to $12 per capita in low-income countries and $22 per capita in middle-income countries.

Adoption of the package in all developing countries would require a quadrupling of expenditures on public health, from $5 billion at present to $20 billion a year, and an increase from about $20 billion to $40 billion in spending on essential clinical services. In the poorest countries governments typically spend about $6 per person for health and total health expenditures are about $14 per person. There, paying for an essential package will require a combination of increased expenditures by governments, donor agencies, and patients and some reorientation of current public spending for health. In middle-income countries, where public spending for health averages $62 per person, the $22 cost of the package is financially feasible if the political commitment exists for shifting existing resources away from discretionary services with lower cost-effectiveness toward public health programs and essential clinical care. These major changes cannot be made overnight, but it is important to start and complete them as swiftly as possible, before interest groups and bureaucratic inertia undermine reform.

A critical question in designing an essential clinical package is the extent of government financing. Should governments pay for everyone, or only for the poor? The main problem with universal government financing is that it subsidizes the wealthy, who could afford to pay for their own services, and thus leaves fewer government resources for the poor. A policy requiring those who can pay all or part of their own costs to do so may make sense on equity grounds, but it also has disadvantages. Often, the administrative costs of targeting are high, and exclusion of wealthy and middle-income groups can lead to erosion of political support for the essential package and to decreased funding and lower quality of care. Furthermore, problems of cost escalation and access to insurance on the part of high-risk groups can complicate private finance. For these reasons, in most member countries of the Organization for Economic Cooperation and Development (OECD), governments finance (or mandate the financing of) comprehensively defined essential packages for virtually all their citizens.

In low-income countries, where current public spending for health is less than the cost of an essential package, some degree of targeting is inevitable. If the wealthy are already opting out of government-financed services because of the higher quality and convenience of privately financed services, targeting is fairly easy. Community-financing schemes, whereby patients at local health centers and pharmacies pay modest fees, are another option that can help both to improve the quality of care and, when fees are retained and managed locally, to sustain services. A large number of countries in Africa have had some early success with community financing as part of the Bamako Initiative led by UNICEF and WHO. Nonetheless, experience to date suggests that introduction of user fees at levels that do not discourage the poor is likely to be more useful for improving technical efficiency (for example, by facilitating drug supply) than for raising substantial revenues on a nationwide basis.

**Reforming health systems: promoting diversity and competition**

Ensuring basic public health services and essential clinical care while the rest of the health system becomes self-financed will require substantial health system reforms and reallocations of public spending. Only by reducing or eliminating spending on discretionary clinical services can governments concentrate on ensuring cost-effective clinical care for the poor. One way to do so is by charging fees to affluent patients who use government hospitals and services. In Chile, Kenya, Lesotho, and other countries governments are increasing user fees for the wealthy and for those covered by insurance and are strengthening the legal and administrative systems for billing patients and collecting revenues.

Promoting self-financed insurance, thus eliminating large and inequitable subsidies to the more affluent groups who are covered by insurance,
would also help to free government funds for public health programs and essential clinical care. Subsidies in the form of tax relief for contributions to private insurance are equal to nearly a fifth of total government spending for health in South Africa. In Latin America subsidies to the social insurance systems are widespread and include tax relief, direct transfers to cover the operating deficits of social security health funds, and matching government funds for employee payroll contributions. Where these subsidies benefit only the better-off in society, they need to be scaled back.

Reforms entail shifting new government spending for health away from specialized personnel, equipment, and facilities at the apex of health systems and "down the pyramid" toward the broad base of widely accessible care in community facilities and health centers. Very few cost-effective interventions depend on sophisticated hospitals and specialized physicians—all the services contained in the minimum essential clinical package proposed in this Report can be provided by health centers and district hospitals. Yet specialized facilities everywhere absorb a large amount of public resources, a problem that has frequently been exacerbated by donor investments in tertiary care facilities. In the 1980s Papua New Guinea, to correct overconcentration of resources on higher-level facilities, limited public spending on hospitals to 40 percent of the recurrent budget of the Ministry of Health—well below the level in most developing countries.

Governments need to use more effective policies for financing training (including use of national service mechanisms) to help meet the need for primary care providers, particularly nurses and midwives, and for public health, health policy, and management personnel. At the same time, governments should limit or eliminate subsidies for specialist training. Increased government support for health information systems and operations research would help to guide public policies for health. Estimates of the national burden of disease along the lines of the global burden of disease methodology used in this Report, and local information on the cost-effectiveness of different interventions, would enable governments to establish health priorities.

In every developing country decisive steps are needed to correct the pervasive inefficiency of clinical health programs and facilities and especially of government services. Clinics and outreach programs operate poorly because of shortages of drugs, transport, and maintenance. Hospitals keep patients longer than necessary and are poorly organized and managed. Countries pay too much for drugs of low efficacy, and drugs and supplies are stolen or go to waste in government warehouses and hospitals.

In the short term, reforms in pharmaceutical usage offer the greatest gains in efficiency. Governments that have introduced competition in the procurement of drugs have typically achieved savings of 40 to 60 percent. Governments can also develop national essential drug lists, consisting of a limited number of inexpensive drugs that address the important health problems of the population. Many countries have such lists, but not all use them to guide the selection and procurement of drugs for the public sector. New treatment protocols and alternative uses of facilities can also raise efficiency. Outpatient surgery can replace some procedures customarily performed on an inpatient basis, at considerable savings.

In the long run, decentralization can help to increase efficiency when there is adequate capacity and accountability at lower levels of the national health system. Some countries, such as Botswana and Ghana, have delegated a wide range of management responsibilities to regional and district-level offices of the ministry of health; others, including Chile and Poland, have devolved authority and resources to local government agencies. Their experience provides evidence that success is possible—but also that hasty and unplanned decentralization, sometimes purely in response to political pressures, can create new problems.

Greater reliance on the private sector to deliver clinical services, both those that are included by a country in its essential package and those that are discretionary, can help raise efficiency. The private sector already serves a large and diverse clientele in developing countries and often delivers services of higher quality without the long lines and inadequate supplies frequently found in government facilities. In many countries private doctors and pharmacies face unnecessary legal and administrative barriers, and these need to be removed. But the tendency for profit-making providers to overprescribe drugs, procedures, and diagnostics needs to be countered; encouraging the for-profit sector to move away from fee-for-service to prepaid coverage (through, for example, encouraging health maintenance organizations) is one feasible approach.

Governments could also subsidize private health care providers who deliver essential clinical
services to the poor. This is already beginning to happen and needs to go further. In many African countries, including Malawi, Uganda, and Zambia, governments subsidize the operating expenditures of church hospitals and clinics in rural areas and the training of their health personnel. In Bangladesh, Kenya, Thailand, and other countries, governments, with assistance from donors, are supporting the work of traditional birth attendants in safe pregnancy and delivery care and of traditional healers in controlling infectious diseases such as malaria, diarrhea, and AIDS.

Regulation is an essential element of government efforts to encourage private health care suppliers. In most countries, governments have an important role to play in ensuring the quality of private sector health care—through accreditation of hospitals and laboratories, licensing of medical schools and physicians, regulation of drugs, and reviews of medical practices. Some countries in which the government’s ability to regulate is particularly weak could explore self-regulation for health care providers, while building up government capacity. In Brazil experiments with self-regulation for local hospital associations and medical ethics boards are now under way.

Government regulation of insurance is equally important. In some countries part of the population is denied insurance because of selection bias under private voluntary insurance. In the United States millions of people with high health risks—and thus high need for health insurance—are unable to obtain affordable coverage. Some types of insurance schemes also seem to contribute to pushing up health care costs; this is particularly true of third-party systems and of systems that reimburse hospitals and physicians item by item for any and all services performed. In both the Republic of Korea, which relies on universal social insurance, and the United States, which uses mostly private insurance, health care already absorbs an unusually high share of GNP—and costs are still rising. During the 1980s, for example, health expenditures in Korea increased from 3.7 to almost 7 percent of GNP, in large part because of expansion of third-party insurance coverage combined with fee-for-service provider compensation.

To eliminate selection bias and expand insurance coverage, governments can require insurers to pool risks across large numbers of people. To control costs, governments have a number of options for limiting payments to health providers. One approach is to encourage prepayment of a fixed amount for each person, as is now done in private health maintenance organizations and in the British National Health Service. Another is for insurers jointly to negotiate uniform fees with doctors and hospitals, as is done in Japan’s social insurance system and Zimbabwe’s private medical aid insurance system; or insurers themselves can set fixed payments for specified medical diagnoses, as in Brazil. Yet a third approach, which has been tested on a limited scale in the United States, is “managed competition.” This scheme pursues the three objectives of cost-effective health spending, universal insurance coverage, and cost containment simultaneously through tightly regulated competition among companies that provide a specified package of health care for a fixed annual fee. Each of these approaches has proved workable, but each also has its limits and disadvantages. There are no simple answers for health policymakers.

**An agenda for action**

Adoption of the main policy recommendations of this Report by developing country governments would enormously improve the health status of their people, especially poor households, and would also help to control health care spending (Table 3). Millions of lives and billions of dollars could be saved. Implementation of the public health and essential clinical care packages, pursuit of economic growth strategies that reduce poverty, and increased investment in schooling for girls would have the largest payoffs in averting deaths and reducing disability. Scaling back public spending for tertiary care facilities, specialist training, and clinical care with lower cost-effectiveness would help to increase the effectiveness of health spending. So would encouragement of competition in delivery of health services and regulation of insurance and of provider payment systems.

These recommendations will facilitate progress toward the goal contained in the declaration from the historic 1978 Alma-Ata conference: “The attainment of all peoples of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life.” Continued momentum toward this goal was provided by the 1990 World Summit for Children. Almost 150 countries have now signed commitments to specific goals for their countries to improve the health of children and women (Box 2). These goals include reduction of child mortality rates by one-third (or to 70 per 1,000 births, whichever would be less) over the course of the decade of the 1990s,
### Table 3 Contribution of policy change to objectives for the health sector

<table>
<thead>
<tr>
<th>Government objectives and policies</th>
<th>Contribution to goals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foster an enabling environment for households to improve health</strong></td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td>Pursue economic growth policies that benefit the poor</td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td>Expand investment in education, particularly for females</td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td>Promote the rights and status of women through political and economic empowerment and legal protection against abuse</td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td><strong>Improve government investments in health</strong></td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td>Reduce government expenditures for tertiary care facilities, specialist training, and discretionary services</td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td>Finance and ensure delivery of a public health package, including AIDS prevention</td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td>Finance and ensure delivery of essential clinical services, at least to the poor</td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td>Improve the management of public health services</td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td><strong>Facilitate involvement by the private sector</strong></td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td>Encourage private finance and provision of insurance (with incentives to contain costs) for all discretionary clinical services</td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td>Encourage private sector delivery of clinical services (including those that are publicly financed)</td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
<tr>
<td>Provide information on performance and cost</td>
<td>![Very favorable] ![Favorable] ![Somewhat favorable] ![No impact expected]</td>
</tr>
</tbody>
</table>

- Very favorable
- Favorable
- Somewhat favorable
- No impact expected

The relevance of the main recommendations of this Report varies from one setting to another. In low-income countries renewed emphasis on basic schooling for girls, strengthening of public health programs, and support for expanded public financing of essential clinical services should be at the top of the policy agenda. In most middle-income countries these policies are still germane, but reducing public subsidies for insurance and discretionary care would also yield large benefits and should therefore be a key element of policy change. In the formerly socialist economies there are two particularly crucial policy areas—improving the management of government health services and developing sustainable health-financing systems that maintain universal coverage while encouraging competition among cost-conscious suppliers.
Box 2  The World Summit for Children

The declaration and plan of action adopted at the World Summit for Children, held in New York in 1990, incorporate a politically salient agenda for health. The summit focused, in particular, on the needs of children and women but was set in the broader context of human and community goals. The seventy-one heads of state who attended and the seventy-seven more who subsequently signed the declaration committed their countries to developing national programs of action (NPAs) for achieving these goals. To date, about eighty-five countries have drawn up NPAs, and another sixty are in the process of preparing them.

NPAs typically cover, among other concerns, primary health care, family planning, safe water, environmental sanitation, nutrition, and basic education. Because of their concentration on the welfare of children, NPAs are able to transcend political differences. They offer a means of mobilizing the whole of civil society—neighborhood and civic associations, religious groups and professional bodies, businesses, voluntary agencies, organized labor, and universities—in the cause of investment for health.

NPAs are being integrated into national development planning. They set forth measurable, attainable goals—to be met by 2000 or earlier—that are adapted to the realities of the country. By quantifying the resources required to achieve these goals, NPAs help to identify the changes that are needed in national budgets and external aid if priorities for human development are to be met. The health goals of the summit's plan of action include:

- The eradication of polio by 2000
- The elimination of neonatal tetanus by 1995
- A 90 percent reduction in measles cases and a 95 percent reduction in measles deaths
- Achievement (by 2000) and maintenance of at least 90 percent immunization coverage of one-year-old children, as well as universal tetanus immunization for women of childbearing age
- A halving of child deaths caused by diarrhea and a one-quarter reduction in the incidence of diarrheal disease
- A reduction by one-third in child deaths caused by acute respiratory infections
- Virtual elimination of vitamin A deficiency and iodine deficiency disorders
- A reduction in the incidence of low birth weight (2.5 kilograms or less) to no more than 10 percent
- A one-third reduction from 1990 levels in iron deficiency anemia among women
- Access for all women to prenatal care, trained attendants during childbirth, and referral for high-risk pregnancies and obstetric emergencies.

The agenda for action of the children's health summit is broadly consistent with the messages of this Report.

At first glance, it might appear that adoption of this Report's major recommendations will be easy. To reach most people living in the developing world with the minimum package of cost-effective public health and essential clinical services, about half of current government expenditures on other, more discretionary care would have to be redirected. But in reality, change will be difficult, since an array of interest groups may stand to lose—from suppliers of medical services to rich beneficiaries of public subsidies to protected drug companies. Many of the changes will take years to implement because they mean a major redirection of public resources and require the development of new institutional capabilities.

A number of developing countries have already shown in recent years that broad reforms in the health sector are possible when there is sufficient political will and when changes to the health system are designed and implemented by capable planners and managers. Zimbabwe has imposed a decade-long moratorium on new investments in central hospitals and has concentrated on improving health centers and other district-level infrastructure. Tunisia has converted eleven large government hospitals to semiautonomous institutions with strong incentives for improved performance. During the 1980s Chile delegated responsibility for its entire primary clinical care system to local governments and fostered more public and private competition in health service delivery and in insurance. Costa Rica and Korea achieved universal health coverage through social insurance.

The international community can do more to support health policy reforms. In 1990 donors disbursed about $4.8 billion of assistance for health, or about 2.5 percent of all health spending in developing countries. Tunisia has converted eleven large government hospitals to semiautonomous institutions with strong incentives for improved performance. During the 1980s Chile delegated responsibility for its entire primary clinical care system to local governments and fostered more public and private competition in health service delivery and in insurance. Costa Rica and Korea achieved universal health coverage through social insurance.

The international community can do more to support health policy reforms. In 1990 donors disbursed about $4.8 billion of assistance for health, or about 2.5 percent of all health spending in developing countries. The share of total development aid for health declined slightly in the 1980s, from 7 to 6 percent, despite widespread calls for increased investment in human resource development, including health. As an immediate first step, donors need to restore this share to its former level. A more substantial increase can be easily
justified, given the importance of health in reducing poverty and the large gap between current and needed spending for public health programs and minimum clinical services. An additional $2 billion a year from donors would meet about one-quarter of the costs of stabilizing the AIDS epidemic ($500 million) and one-sixth of the extra resources needed to provide the public health and clinical care package for low-income countries ($1.5 billion of the $10 billion required).

Increased external assistance for health research that focuses on the major health problems of developing countries—such as the search for new antimalarial drugs and new or improved vaccines—could have a very high payoff and would build on the comparative advantage of donor countries in conducting scientific research. That most health research benefits many countries further justifies donor support, particularly through such effective internationally collaborative mechanisms as the Special Programme for Research and Training in Tropical Diseases.

Donors and developing country governments can also do much to improve the effectiveness of aid for health. This is especially important in low-income Africa, where aid already accounts for an average 20 percent of health spending—and for over half in Burundi, Chad, Guinea-Bissau, Mozambique, and Tanzania. Even in other developing regions, where aid amounts to 2 percent or less of health expenditures, better targeting and management of this assistance can catalyze policy change.

Redirecting donor money from hospitals and specialist training to public health programs and essential clinical care—especially for tuberculosis control, the EPI Plus program, AIDS prevention, and reduction of tobacco consumption—would be a significant contribution to policy reform. So would support for capacity-building. Countries that are willing to undertake major changes in health policy should be strong candidates for increased aid, including donor financing of recurrent costs. An increasing number of donors, among them the World Bank, are now supporting this kind of broad sectoral reform. Stronger donor coordination, especially at the level of individual developing country clients, would improve the positive impact of aid on health, as shown by the experience of Bangladesh, Senegal, and Zimbabwe.

The benefits to the developing world from adopting sound policies for health are enormous. There is great potential for change during the closing years of this decade as more countries encourage broad political participation and public accountability, as levels of education and knowledge improve, and as understanding of human biology, public health, and health care systems increases. If the right policy choices are made, the payoff will be high. The momentum of past reductions in the burden of infectious disease in developing countries can be maintained and accelerated. The AIDS epidemic can be slowed or reversed. The emerging problems of noncommunicable disease in aging populations can be managed without rapid increases in health expenditures. In the end, this will translate into longer, healthier, and more productive lives for people around the world, especially the more than 1 billion now living in poverty.