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What Should Macroeconomists Know About Health Care Policy? A Primer

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What Should Macroeconomists Know About Health Care Policy? A Primer

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Abstract

This primer aims to provide IMF macroeconomists with the essential information they need in situations where they must address issues concerning health sector policy and when they have significant macroeconomic implications. Such issues can also affect equity and growth and are fundamental to any strategy of poverty reduction. The primer highlights the appropriate roles for the state and market in health care financing and provision. It also suggests the situations in which macroeconomists should engage health sector specialists in policy formulation exercises. Finally, it illustrates the different health policy issues that confront countries at alternative stages of economic development and the range of appropriate policy options.

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I. INTRODUCTION

Often, economic policymakers measure their success solely by their country's economic growth. As a result, they devote most of their time and efforts to macroeconomic issues, overlooking the impact of macroeconomic policy on the social sectors—education, health, and income security. Over the past decades, structural adjustment policies have had a profound impact on the social sectors and on social development.

The IMF recognizes that macroeconomic policies have important social implications and that sustained economic growth requires stable political conditions. Political stability depends on people's belief that the society is fair and just, and every citizen has a fair opportunity for a better life. Specifically, the IMF has given greater priority to strengthening the social safety nets and to a macroeconomic and budget framework that provides for adequate public education, health care, and increased opportunities for the poor.

Although incorporating health concerns into macroeconomic policy requires an understanding of health economics, macroeconomics and health economics are two distinct fields. Seldom does a specialist in one field have more than a modest understanding of the other. More important, macroeconomists and economic policymakers frequently assume that it is valid to apply efficient market theory in structuring the social sectors. As a result, they decide social development should follow the free market strategy used in economic development.

This primer is a step toward bridging the divide between macroeconomic policy and health policy. It aims to acquaint macroeconomists with some fundamental economic facts about health care and the major health issues confronting countries. It provides a perspective for examining a country's health care system by suggesting some broad parameters that macroeconomists can use to evaluate a country's health policy and performance.

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II. A GUIDE TO THIS PRIMER

In the past, most macroeconomists assumed that social development had a minimum impact on economic growth and stability; however, we now know that sustained economic growth requires stable political conditions. Political stability in turn depends partly on the fairness and justice that exist in a country. The development of an equitable distribution of health, education, and economic security forms a basis for a just society. Inevitably, macroeconomic policy has implications for the health sector and ultimately for the level or health status of the population. Therefore, macroeconomists are increasingly addressing health issues through fiscal policy. On the other hand, social development requires economic advancement. Simply put, sustained economic growth and equitable social improvement are two sides of the same coin: sustainable economic growth requires sound and harmonized economic and social policies.

This primer aims to provide macroeconomists with the essential information they need about the health sector. They need to know which health policies may improve the equity and efficiency of health care, as well as which policies will improve the level of health status, reduce poverty, and enhance social and political stability. As a primer, it does not provide in-depth information or complete evidence for the arguments made, but offers an extensive bibliography for those who desire further information. It also highlights situations in which macroeconomists should engage health sector specialists in policy formulation exercises.

Health issues are unusually complex, not only because they are inextricably intertwined with social values, but also because health is a very personal matter that shapes our daily lives. Most people form their understandings of the total health system through the prisms of their own experiences with health care services. *These highly personalized experiences, however, complicate the experts' and the public's understanding of broad health issues,* making it difficult to agree on health policies.

This paper is lengthy because health issues and their economic considerations vary significantly by stages of socioeconomic development. We have to analyze the health issues and policy separately for each stage. For macroeconomists who want to have a minimal understanding of health systems and health policy, this introductory section summarizes the major points that are generalizable to all stages. It also provides a road map to help steer macroeconomists toward those sections most relevant for the type of country on which they are working.

Subsequent sections go deeper in addressing four basic questions. In Section III: What basic health care information do macroeconomists need to know? In Section IV: What are the appropriate roles for the state and market in health care financing and provision? In Section V: What analytical framework should be used to assess the health care system? And, in Section VI: What guideposts should be used when considering health policy options for countries at different stages of development? In particular, there are separate sections addressing the specific health problems found in developing economies, emerging market economies, countries in economic transition, and more advanced economies.

A. How Does Health and Health Expenditure Relate to Socioeconomic Development?

- *Spending on health care strains both household and government budgets.* In advanced economies, an ever-increasing share of the government budget is spent on health care (OECD, 1998). The rapid increase in the health expenditure inflation rate is particularly an exacerbating factor. The rising cost of health care is partly due to the rapidly aging population. Yet few countries have a policy strategy to deal with this fiscal problem.

- *The cost of serious illness is the major generator of poverty in many lower-income countries.* The cost of modern medicine (e.g., tests, surgery, and hospitalization) is not affordable to most households in lower-income countries. For example, the average cost of a hospitalization typically exceeds the annual median household income in lower-income countries. Studies have found that, for several of these countries, 20-30 percent of households had to borrow or sell assets each year to pay for health care expenses (Russell, 1996; Sauerborn, Adams, and Hien, 1996; Liu, 1995; Gu and Tang, 1995). Households either need medical insurance or access to subsidized health services to prevent financial bankruptcy.

- *Good health broadly shared is intrinsically valued in all societies.* The concept of equity in health and equal access to health care is based on an ethical notion of fairness. Inequities are intrinsically repugnant; disproportionate suffering by selected groups of people offends our innate sense of justice. From this perspective, we can infer that, at the minimum, every individual should have access to basic services and medicines to relieve pain and suffering and to avoid untimely death. At the maximum, every individual should be able to attain their full health potential regardless of age, gender, and socioeconomic status.

- *Good health of the population significantly contributes to human capital development and economic productivity.* Numerous microstudies have found that children's health has a large impact on their ability to learn and retain knowledge (Jackson, 1993; Kramer, Allen, and Gergen, 1995; and Novello, *et al.*,1992). Adult health status affects the size of the labor force, worker absenteeism, and worker efficiency (Mushkin, 1962).

- *Health care as a good is different from other essential goods and services.* Health care differs significantly from nutrition, education, and housing for two reasons. First, the individual household faces only a small probability of having a major accident or illness. The costs of treating a major illness are not affordable for most households. As Kenneth Arrow (1963) shows, providing health insurance increases a society's social welfare. Insurance, however, causes moral hazard and results in a loss of economic efficiency. Second, there are serious market failures in the health sector. Private insurance companies select the healthy, younger people to insure and leave the less healthy and poor people uninsured. Thus, the good risks are not pooled with bad risks, and the government is left with a serious social problem and a large fiscal burden. Moreover, professional dominance is prevalent in the health sector due to asymmetry of information between physicians and patients; if left unchecked, the medical profession

can exercise its monopolistic power to induce demand, leading to rapid health cost inflation and deterioration in the quality of services.

B. How Do Macroeconomic Policies Affect Health?

Macroeconomic policy focuses on aggregates such as budget balance, interest rates, and exchange rates. These policy instruments affect output, inflation, income, employment, and the balance of payments. Macroeconomic policies affect health and health care in three ways:

- Through government spending on social programs (e.g., health care, nutrition, and education, which directly or indirectly impact health (Anand and Chen, 1995));
- Through tax policy provisions related to health insurance premia and excise taxes on tobacco, alcohol, and firearms, all of which affect how many people have insurance and how many people become ill, respectively; and
- Through exchange rates, which directly affect the prices of imported vaccines and medicines.

The *general* effects on health care resulting from these macroeconomic policies are known. Beyond these general policy, macroeconomists may want to know what *specific* health policies can improve health and health care.

C. What are the General Findings and Policy Actions?

Sound public policy should be based on information, evidence, and reasoning. Economic policymakers can inform themselves of several major lessons learned from countries' varied experiences in organizing and financing health care. These experiences taught us which policies are sound and which are not. We present several general findings and actions that can be applied in most countries to improve health care.

- Health resources should be allocated to achieve three objectives: (1) an optimal level of *health status distributed equitably*; (2) an adequate degree of *risk-protection for all*; and (3) the highest possible level of consumer satisfaction for the entire population. Achieving these objectives will require making difficult decisions about trade-offs, especially between equity and efficiency.
- Governments should establish institutions to finance health care and pool risk, rather than relying on the free market. However, the degree to which the market and government can work efficiently and appropriately varies by function, for example, financing versus the provision of health care. Although many countries have tried regulatory remedies to correct the market failures in the voluntary private insurance market, no country has succeeded. On the other hand, international experience shows that government-managed "free" public health services tend to be inefficient and nonresponsive to patients' needs. Market mechanisms can provide services that are more efficient and higher in quality than government-managed free services.

- As market competition is capable of addressing only the efficiency issue, the government has to be responsible for the equitable distribution of essential health goods. At *the minimum*, the government should (1) finance and provide public and merit goods, for example, health education, immunizations, and maternal and child health care; (2) target and subsidize primary care and hospital services for the poor; (3) establish national or regional health risk-pooling (e.g., insurance) for formal sector workers and their families; (4) establish regulations to remedy market failures and monitor market performance; and (5) educate the public to be informed consumers of health services. In carrying out these responsibilities, the government may have to increase its health budget, build its institutional capabilities, and strengthen its human resources.

- Because publicly financed health benefits in developing economies usually favor higher-income households, governments should shift their resource allocations to target their subsidies to the poor and to those in the greatest need.

- Costly technology used by advanced economies to provide sophisticated medical treatments and clean water and sanitation is often unaffordable for low-income countries. Yet existing affordable technology is not promulgated because it is not glamorous or profitable. International organizations should promote the use of the affordable technology and support investment in international public goods, such as the development of malaria vaccines to increase social benefits for the poor.

D. What Specific Actions Can Macroeconomists Take?

Unless adequate information is available, policymakers cannot formulate sound health policy, monitor sector performance, or establish a health safety net. Currently, an information gap is the major barrier for the IMF macroeconomists to function effectively and rationally in situations where they may need to consider the impact of macroeconomic policy on health. Most non-OECD countries have not gathered the basic data on the inputs and outputs of their health system, for example, total health spending; the poor's access to health care; the efficacy of resources used; operations in the private market; the proportion of households that may be driven into poverty by the need to incur large medical outlays; and consumer satisfaction. This information gap inhibits the formulation of appropriate health policy.

To allocate public resources, we need to know, for example, how much health care contributes, in general, to health or economic growth or well being, and the relative marginal benefits derived from additional spending on health care compared to spending on education, sanitation, and rural development. This knowledge is largely absent.

The IMF, as a macroeconomic institution, can do little in the short term to improve health system performance in most low- and middle-income countries. The reason is simple: these countries lack sufficient information, institutional capacity, and human resources to make systemic changes. Also, the staff is selective in covering this and other social issues, doing so only when these have a sizable and direct effect on macroeconomic developments. In the short run, the IMF should support WHO and World Bank efforts to help countries build a better foundation for formulating an appropriate health policy framework.

- **Action/Step #1: Ensure the availability and collection of crucial health information.** The IMF can play an important supportive role in this regard. Although it is not the role of the IMF to advise countries on what specific health data to compile, the IMF is in a unique position to influence government decisions on what broad information is important to collect for informed public policy decision-making. Compared to other international organizations, the IMF has a much closer working relationship with countries' economic decision makers. Health officials are more likely to collect the necessary information if the ministry of finance mandates and funds the collection. Each year, the national health accounts should be compiled, and a report issued on the health (and education) outcomes of the poor. These outcome data can be collected with Rapid Field Assessment instruments.

- **Action/Step #2: Warn policymakers of market failures in the health sector.** IMF economists should be aware, and when the situation arises, advice economic decision makers that health care markets have many anomalies. *Health policy cannot automatically follow the free market strategy often used in economic development.* A health sector consists of more than a dozen markets, most of which suffer from serious market failures (Evans, 1984; Hsiao, 1995b; and Massaro, *et al. 1994).*

- **Action/Step #3: Promote Rational Health Policies.** Health sector development requires a distinctive policy strategy that recognizes that it has to deal with both equity and efficiency of health and health care, and the existence of serious government and market failures. Sound health policy requires a well-designed combination of regulation and competition, public and private financing, and institutional capacity building.

  In most low- and middle-income countries, taxes on tobacco, alcohol, and firearms should be increased as a preventive health measure, and as fiscal measures, may be relevant for IMF economists to consider. For other health policies, the IMF can reference the strategy for the health sector[2] developed by the World Bank.

A road map to this paper is given below. This paper's discussions of health systems and specific policy actions are organized by stages of socioeconomic development, so that IMF economists can select the parts of most interest and not have to read the entire paper.

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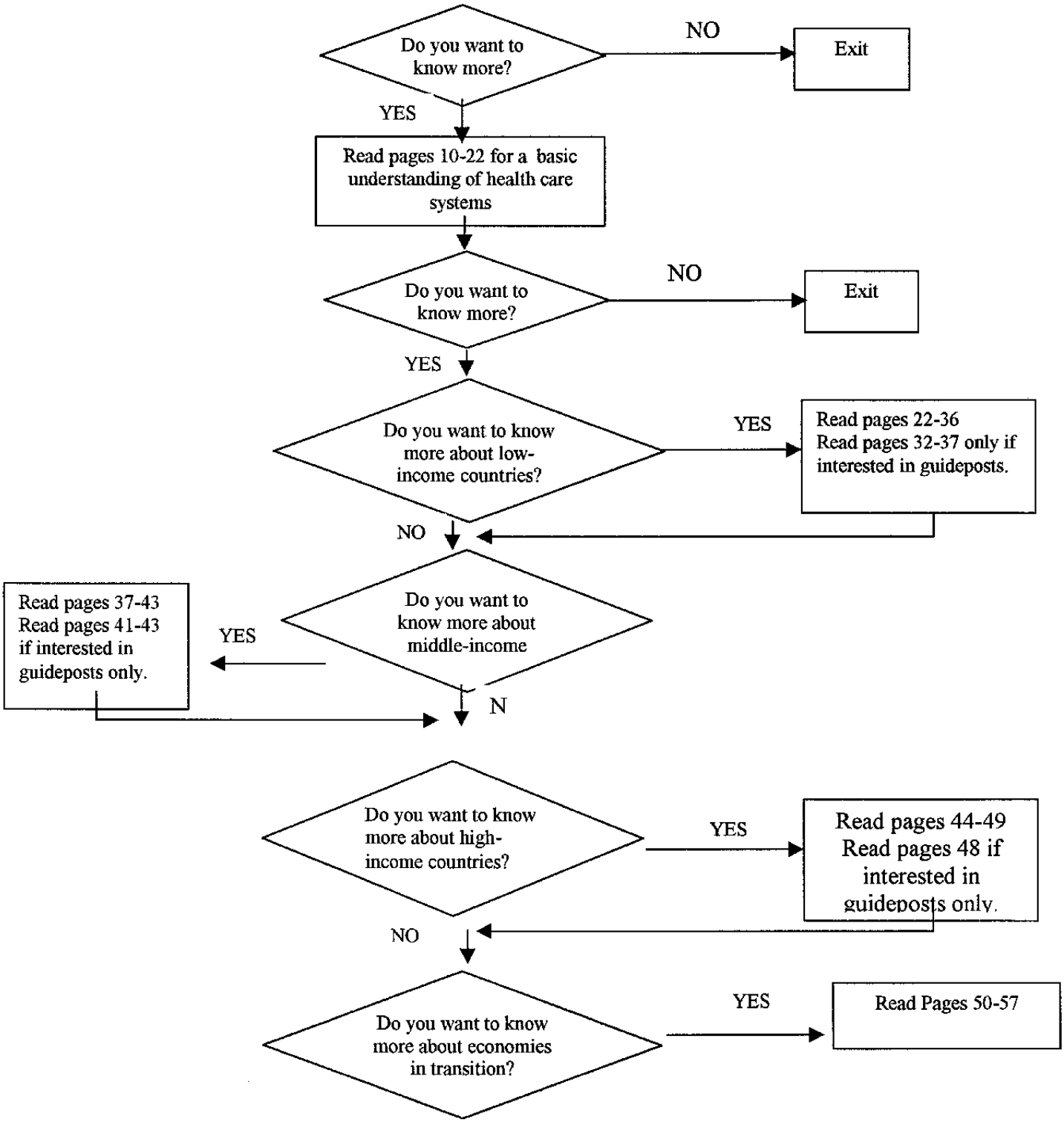
[2] The World Bank's current health sector strategy is to help members: (a) *improve the health, nutrition, and population outcomes of the poor,* by protecting people from the impoverishing effects of illness, malnutrition and high fertility; (b) *enhance health care system performance* by promoting equitable access to preventive and curative health, nutrition, and population services that are affordable, effective, well managed, of good quality, and responsive to clients; and (c) *secure sustainable health care financing* by mobilizing adequate levels of resources, establishing broad-based risk-pooling mechanisms, and maintaining effective control over public and private expenditure (World Bank, 1997:1, p. 1).

Figure 1. A Road Map for Reading the Primer



III. Essential Information for Policymakers

A. Basic Facts About the Health Sector

Certain basic facts about the health sector and health care are not widely known. This section explains what macroeconomists should know on this subject as they participate in the formulation of health policies.

- *Health resource allocation involves complex trade-offs.* Contrary to popular belief, the allocation of health resources is difficult. Allocation cannot be based solely on cost-effectiveness, which focuses on efficiency but ignores equity. The uncertainty of potentially large financial burdens arising from serious illnesses creates legitimate demand for public subsidies or insurance. In public and private financing of health care, resource allocation should be aimed at the previously mentioned three common objectives: improving the population's health, protecting people from financial catastrophe, and equitably distributing this health care and risk-protection. These multiple goals mean difficult trade-offs.

- *Markets alone cannot produce efficient outcomes in the health care sector.* The health care sector consists of more than a dozen markets, most of which suffer serious failures due to asymmetry of information, imperfect agency relationships, barriers to entry, and moral hazard. For example, both theory and empirical evidence show that adverse selection (Rothschild and Stiglitz, 1976; Cutler, 1996) and risk-selection (Luft, 1986; Holahan, 1997) seriously impair the efficient operation of insurance markets. In the service-provision market, physicians have the market power to practice price discrimination (Kessel, 1958) and induce demand (Yip, 1998), and patent law protections offer monopolistic profits for certain pharmaceutical products. These market failures cause inefficiency, rapid health expenditure inflation, and inequity. International experience has taught us that some of these market failures can be corrected, but others are beyond our current capability. In summary, market competition can be used only selectively for the benefit of a country's health and welfare.

- *The distribution of health expenditure is highly skewed.* In rich and poor countries alike, approximately 25-30 percent of a country's total health expenditure is spent on one percent of the population, and approximately 60 percent of total health expenditure is spent on five percent of the population. For 20-25 percent of the population, there is no spending for health care in a given year. Table 1 gives the contingency table of U.S. health expenditure (i.e., percent of health expenditure by percent of the population), which is fairly typical of most countries. But our ability to predict which individuals are at highest risk in any given year is very limited. Thus, this skewed distribution has at least three important economic implications: (1) health insurance is necessary, as shown in the seminal paper by Kenneth Arrow (1963); (2) adverse selection inhibits the establishment of a stable health insurance market, as shown by substantial empirical evidence (Rothschild and Stiglitz, 1976; Cutler and Zeckhauser, 1998); and (3) the relatively new discovery that risk-selection by insurers leaves the burden of covering the high-risk population to the government (Davis, 1975) and reduces the quality of medical services (Newhouse, 1992).

Table 1. United States: Contingency Table of Health Care Expenditure, 1998
(For all age groups)

Percent of Total Population	Percent of Total health Care Expenditure
1	29
5	60
10	74
50	98
80	100

Source: Compiled by author from US government, Agency for Health Policy and Development , 1998, National Medical Expenditure Survey data, projected to 1999.

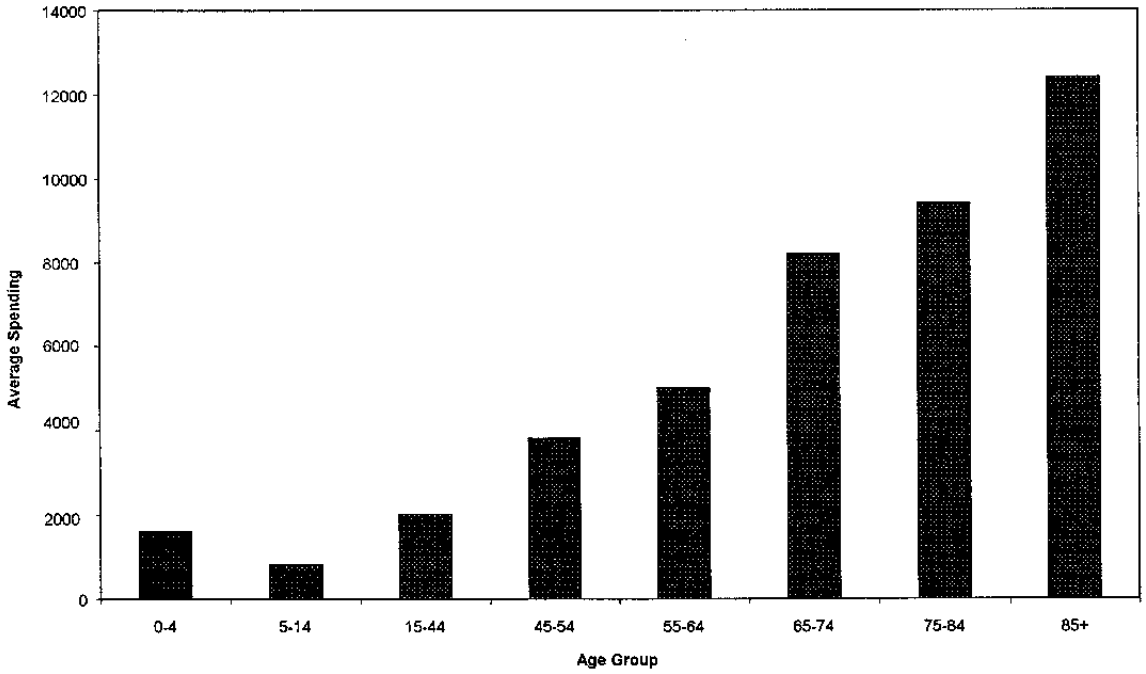
- *The supply side has a greater impact on health care efficiency, quality, and spending than does the demand side.* Moral hazard on the demand side is well known. What is less understood and measured is the fact that monopolistic power on the supply side has a greater impact on efficiency, quality, and spending. The U.S. government-funded ($100 million) study by the Rand Corporation in the early 1970s studied and measured the price elasticity of demand for medical services in the United States and found the elasticity of health expenditure to be about 0.2 (Newhouse, 1977). Other studies have found an elasticity range of 0.1 to 0.4 for low-income countries. It is, however, important to note that the elasticity could be greater than 1.0 for poor families in low-income countries (van der Gaag, 1991; and Gertler and van der Gaag, 1990).

  On the supply side, the asymmetry of information between the physician and the patient as well as the urgency of some medical conditions give physicians the power to *induce* demand and set prices. The elasticity of *induced* demand has not been rigorously measured because of data limitations. Nonetheless, the U.S. government accepted the value of 0.5 for policy-planning purposes. For lower-income countries, the stylized facts show that this elasticity is much higher than in the United States, because professional ethics and quality regulations are less developed. It is well known that physicians in lower-income countries can drastically change the type of drugs prescribed, tests ordered, and length of hospital stay required in response to price changes that affect their income. This indicates that the elasticity of *inducement* would be near 1.0 in those countries. In summary, the elasticity of *induced* demand is comparatively larger than the price elasticity of demand.

  In advanced economies, where there is an adequate supply of physicians, an increase in the aggregate supply of physicians raises total health expenditure. This is because disease etiologies provide almost endless opportunities for specialization. An increase in the supply of physicians usually leads to growth in subspecialties, which leads to greater number of referrals. Consequently, the quantity of services and health spending rise. This has happened, for example, in the United States, further fragmenting medical care with questionable benefit for many patients. In summary, to promote efficiency and manage expenditure inflation, it may be more important to control the supply side than to regulate demand.

- *Per capita health spending increases with age.* Figure 2 shows that, in the United States, those between ages 65 and 74 typically spend three times more on health care than those between ages 18 and 64. This ratio increases to four times for the group aged 75-84. Other advanced economies show similar relationships between health spending and age. By about the year 2010, most advanced economies will experience an accelerated rate of increase in the elderly dependency ratio, leading to a tripling of the present rate by about 2030. Middle-and lower-income countries are experiencing similar demographic transitions, but starting a decade or two later (Heller, 1998). As a country's population ages, pay-as-you-go methods of public financing for health care place an increasing tax burden on the working population. This burden impacts the labor market and national saving.

Figure 2. United States: Average Health Care Expenditure by Age Group, 1998
(In dollars)



Source: United States Government, National Medical Expenditure Survey Data, projected to 1999.

B. Myths about Health Care Systems

As discussed, health policy deliberations are hampered not only if participants are ill-informed of basic facts, but also if they are swayed by several widely held myths. Some of these myths are based on standard neoclassical economic theory that is itself unsupported by empirical evidence. Nonetheless, these myths have strongly influenced policy debates around the world, particularly in the United States. Three such myths are debunked below, in hopes that policymaking can be based on solid evidence.

- *Myth #1: National or social insurance restricts patients' choice of providers; private insurance gives much greater choice.*

This myth is widely held in the United States and has distorted the public's understanding of social insurance. In fact, Canadians have total freedom to choose providers under their national health insurance; and Germans have a much greater freedom of choice under their social insurance than do Americans under private insurance and managed-care plans.

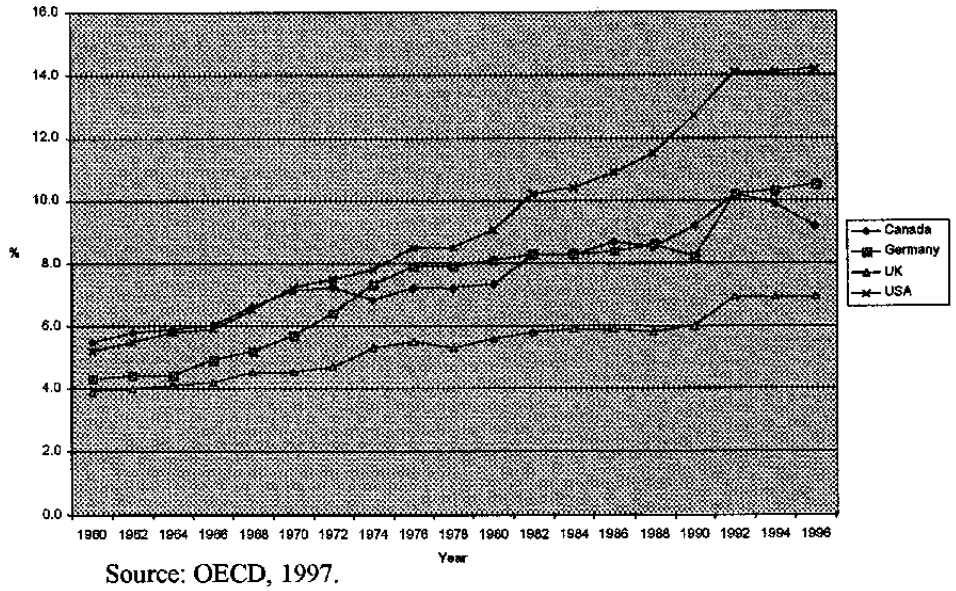
- *Myth #2: Health expenditure inflation cannot be managed because it is driven by the demand for services produced by new, cost-increasing technology.*

Health expenditure inflation rates have increased since the late 1960s. Economists have hypothesized two reasons for this trend. First, three decades ago, most U.S. economists believed that expenditure inflation was caused by the moral hazard arising from increasing insurance coverage. This hypothesis turned out to be unfounded when insurance coverage in the United States remained level or declined in the 19080s and health expenditure inflation continued unabated. Second, recent common economic postulates have attributed high health expenditure inflation to the rapid advance in, and increasing availability of, expensive medical technologies. Economists argue that new technology is endogenously determined by health insurance (Weisbrod, 1991). This hypothesis is not valid for all types of health insurance. It might be valid for the United States, which relies largely on private insurance. In OECD countries with extensive insurance coverage, however, wide use of new medical technology coexists with much lower rates of expenditure inflation.

Evidence shows that all major advanced economies except the United States have been able to manage their health expenditure inflation since the mid-1970s. Prior to the mid-1960s, advanced economies spent 4.0-5.5 percent of GDP for health care and experienced similar health expenditure inflation. In the late 1960s, all advanced economies experienced rising rates (see Figure 2). Countries tried difference methods to control and manage this problem. By the mid-1970s, all major advanced economies except the United States were able to bring the health expenditure inflation rate under control. As shown in Figure 3, the slopes of the inflation lines for the major advanced economies became less steep, while the slope of that for the United States remained basically unchanged. These other advanced economies have, however, been adopting new medical technology just as rapidly as the United States. Thus, international experience demonstrates that the main cause of health expenditure inflation is not new medical technologies. The cause is something more fundamental.

Other advanced economies have been able to manage health expenditure inflation by establishing an effective budget constraint over the entire health sector. A "closed" budget encourages greater efficiency, including the reduction of less cost-effective medical practices. Health expenditure inflation rates differ because most major advanced economies have been able to break the endogenous link between medical technology and health insurance by deciding exogenously on the level of overall health insurance expenditure. The U.S. health financing system provides an "open" budget to the health sector. This gives providers the ability to shift costs from one plan to another. In other words, the United States does not have a hard budget constraint for its health sector.

Figure 3: Total Health Care Expenditures in Selected Countries, 1960-96
(In percent of GDP)



Source: OECD, 1997.

Americans argue that other countries have been able to manage their inflation rates by underinvesting in health care, which has resulted in long waits for certain tests and surgical procedures. However, patients in most advanced economies—the United Kingdom (U.K.) is one exception—have not had to wait long for nonemergency tests and surgeries. The U.K. could easily eliminate long waiting lists by increasing its health spending from 6.8 percent of GDP to about eight percent of GDP. Canada has waiting lines since the late 1980s due to the drastic cuts made in health budgets during the economic downturn, but that situation rapidly improved after the economy revived and the federal government increased the health budget.

- *Myth #3: Government-financed health services inevitably become underfunded, resulting in shortages, inferior quality of services, and long waits.*

Besides public goods, most countries use general revenue to finance health services, for reasons of equity and risk-protection. Most countries accept the principle that health care is a basic need. It is not appropriate to use price to ration health care according to people's ability and willingness to pay. Because governments of low- and middle-income countries are financially unable to meet all demands, their public health services are usually underfunded; consequently, these services are rationed by other means, such as long waits for treatment. However, this is not the case for advanced economies; most have been able to balance the supply with the demand. The notable exception is the U.K., which relies on the political process at the central government level to set the budget for health. U.K. health care has to compete with other national priorities, such as education, social security, and national defense. The public, acting through the political market, seems to be willing to accept wait-rationed treatment.

- Myth #4: All preventive care is cost-effective and all private sector providers are more efficient than public sector providers.

Often policymakers make the erroneous assumption that the cost in preventing any disease is always less than the cost for treating that disease. This is not so. Besides the cost of supplies, effective prevention programs often require the identification of the population at risk and a high proportion of that population complies with the preventive regimen. These efforts can be very costly. For example, studies show that it is more cost-effective to treat TB cases rather trying to prevent TB. In addition, some preventive measures produce serious side effects that result in permanent disability. In conclusion, preventive policy should be judiciously based on cost-effectiveness analysis, not on impressions.

Similarly, often macroeconomists assume erroneously that private sector production of health insurance and health services is more efficient than public sector production. This is not so. Studies consistently found that the costs of private insurance is higher than public insurance because of the difference in their marketing costs. In the provision of health services, studies in the US have found that private sector production could be more efficient if there is sufficient competition. On the other hand, Singapore found that the private sector hospitals charge much higher prices for hospital services that are the "same" quality as the public hospitals.

IV. What Should be the Roles of the Market and Government in the Health Care System?

The answer to this question depends largely on what socioeconomic objectives a country wants its health system to achieve. A health system is, like other socioeconomic systems, structured by state action or nonaction to serve certain social purposes. For example, the health care delivery system, a subcomponent of the entire health system, organizes collective activities to produce health care and render it accessible to the population. Simply put, *a health system is a means to an end.* The system exists and evolves to serve societal needs. We will now examine the objectives commonly set by countries and the policy instruments they use to achieve the objectives.

A. Ends: Objectives

Despite the fact that countries structure their health care systems very differently, most accept two basic beliefs: good health is of intrinsic value to people, and certain health services are necessary to sustain life and to relieve intense suffering. As a result, dissimilar societies declare similar objectives for their health systems: Use efficient means to achieve (1) an optimal level of *health status distributed equitably*; (2) an adequate degree of *risk protection for all;* and (3) the highest possible level of consumer satisfaction for the entire population.

These objectives embrace both equity and efficiency dimensions. They go beyond the usual economic concerns that exclusively focus on efficiency (Okun, 1974). Table 2 provides a summary of these multiple objectives and also illustrates the possible trade-offs between them.

Table 2. The Objectives of Health Systems

	Objectives (Outcomes)		
Dimensions of Outcomes	**Health Status**	**Risk-Protection**	**Consumer Satisfaction**
Average level of the outcome			
Degree of equity in the distribution of outcome			

In deciding how much to spend in total for health (i.e., the budget constraint), governments need to wrestle with inter-sectoral trade-offs. In allocating resources among sectors, there is an effective trade off between the benefits produced by nonhealth sectors—education, housing, environmental protection, research, and defense—and the social and economic benefits produced by the health system.

There is another round of trade offs—intra-sector—when resources are allocated to achieve different goals *within* the health system. For example, on the margin, there is a trade off between improving the average level of health status and achieving an equitable distribution of health status. Often the major policy debate overlooks the necessary trade offs. For example, the common argument given by economists—that increasing direct out-of-pocket payments by patients will improve economic efficiency—ignores the possible consequence of greater inequality in health status for the poor. But rarely are these trade-offs explicit or obvious to citizens of a country. The implicit boundaries to trading off between different objectives exist in deeply rooted historical processes as well as in fundamental social values, which limit the range of available reform options by creating implicit accountability of policymakers. The health systems of European countries, for example, are deeply rooted in egalitarian traditions, and policy proposals violating this basic foundation of equity have little overall appeal *regardless* of how much they would enhance efficiency (Saltman and Figueras, 1997). On the other hand, the health care system of the U.S. is rooted in libertarian traditions. Compulsory health insurance to cover all Americans remains elusive after more than 60 years of public debate (Marmor and Barr, 1992).

B. Means: Structural Components of Health Systems

We have argued that a health system is a means to an end. The system exists and evolves to serve societal needs. How a country finances and provides health care depends on the objectives that a country pursues. Because there are serious market and government failures, the policy question is not one of either market or government, but rather the *relative* degree of each and how to harmonize them. The respective roles of the government and of the market are ultimately decided by societal objectives set for the health system and the objectives are shaped by the values embraced by its people. For instance, markets normally cannot produce equitable health or health care because of income, gender, and racial inequalities in a society. If a country gives priority to equity, then the government has to take the primary and a strong role in financing health care. In sum, a country's social values and priorities determine where and how that country relies on the market and the government. Nonetheless, it will enhance rational

policymaking if the objectives are clearly set and both market and government failures are well understood.

C. Market and Government Failures

Empirical studies of the past three decades have confirmed the presence of serious market failures in the health sector. Most of these failures have been caused by an asymmetry of information, imperfect agency relationships, and moral hazard—these characteristics are often pervasive in the various markets of the health sector. In the *financing market*, the asymmetry of information between the consumer and insurer about the former's health condition has resulted in significant adverse selection, and the concentration of health risks in a small portion of the population has resulted in serious risk-selection efforts by the insurer. Although insurance is needed to cover the uncertainty of future illness, insurance creates moral hazard. In the *health service provision markets*, one would not expect competition to work when patients suffer from urgent or life-threatening medical problems. Moreover, asymmetry of information gives health practitioners strong monopolistic power to set prices and induce demand. Regarding the supply of health practitioners, to assure patients' safety, the government and the medical profession have erected high barriers of entry as to who can practice medicine. In the *pharmaceutical and medical-device markets*, patent laws have given monopolies to new drugs and new medical technologies to encourage research and development. Although these barriers to entry and monopolies have been established for sound social and economic reasons, they have nonetheless impaired the competitiveness and efficient operation of markets.

Recognizing these serious market failures (or absence of prerequisite conditions for a workable competitive market), many countries have turned to the government to finance and to provide health services. The last 50 years have shown both the benefits and limitations of state action, especially in the promotion of health. Governments have helped deliver substantial improvements in education, health, and economic security. Without this government role, sustainable development, both economic and social, would have been impossible (see World Bank, 1997:2). However, not all experiences with state action in the health sector have been encouraging.

Government decisions are, of course, mostly based on bargaining among political alliances. Thus, the relative powers of different interest groups can greatly affect decisions on resource allocation and on who benefits from and pays for the public programs. Often, a disproportionate amount of public health services goes to the affluent and the urban middle class rather than to the poor. Moreover, curative hospital services are favored over cost-effective primary and preventive services.

Because most governments operate by "command and control"—using bureaucratic rules to manage operations—and public facilities usually operate as a monopoly, even bureaucrats' best-intentions atrophy from lack of information and insulation from patients. Health practitioners' interests often begin to supersede patients' interests and welfare. Politics can then dominate public health services, turning them into major centers for patronage employment, where labor unions become bases of political support. In many low- and middle-income countries, because of the absence of appropriate checks and balances, corruption, fraud, kickbacks and under-the-table payments to physicians and nurses have become widespread. Hence, public

health services become unresponsive to patients' needs, and the efficiency of public health services deteriorates.

When there are serious failures of both markets and government, sound public policy becomes much more difficult to develop. Policymakers may then choose a strategy that will produce a better, but not the *best*, outcome—in essence, a second-best solution.

V. A Structural Framework for Understanding Health Systems and Health Policy

A. Conceptual Framework

How can policymakers understand a health care system and the determinants of that system's performance? Traditionally, health systems were described in the terms of capacity indicators (e.g., number of hospital beds, physicians and nurses, government programs), and in terms of certain health outcome indicators, such as, the infant mortality rate and life expectancy (Roemer, 1993; Raffle, 1984). Then a decade ago, Hurst described health systems in terms of fund flows and payment methods between population groups and institutions (OECD, 1992). Both approaches provide useful information—a descriptive understanding of a health system—but neither explained *why* and *how* a particular system produces a set of outcomes. To investigate this, health economists have largely applied theory (supply and demand) to model and analyze actions in the various markets that make up the health system (Jack, 1999; Feldstein, 1993). At least a dozen markets compose the health sector. Thus far, however, microeconomic theory has offered few insights into and explanations for macrolevel outcomes, such as overall health status (Gerdtham and Jonsson, 2000).

A health system can be conceptualized on at least two levels: macro and micro. On the macrolevel, the focus is on the *overall dimensions* of health sector performance. These dimensions include equal access to basic health services, improvement in quality and distribution of the population's health status, adequate protection for all against impoverishment caused by catastrophic medical costs, and efficiency in producing these aggregated outcomes. In other words, this level looks at the total size, shape, and functioning of the "elephant," that is, the health sector, rather than at microlevel behavior and dynamics of individual firms and households (Ackley, 1961). Ideally, microeconomic theory of individual households and firms would explain macrolevel phenomena, and the aggregated behavior of individual households and firms would add up to the overall result. That has not, however, been the case. Moreover, microeconomic theory has not been able to offer adequate explanations for major structural features that are common to most health systems and that influence macro-outcomes.

For policymakers, the health system should be described in terms of outcomes and policy instruments used to achieve the desired outcomes. Macroeconomists can view this approach as similar to using the structure of a macroeconomy in terms of tax receipts, budget balance, interest rates, and exchange rates to assess a country's macroeconomic performance (i.e., its rates of inflation and unemployment, balance of payments, and GDP growth).

Ends and means

What policy instruments can a country use to achieve the three health care objectives? Many countries have tried different policy "experiments" to improve the performance of their health care systems; analyzing the various experiments gives us an indication as to which structural components affect outcomes. In a policy context, we have found that a state has five major instruments with which to structure the health care system:

- **Financing and its institutional organization**

  - **Method(s) of financing chosen** (e.g., general taxes, social or private insurance, community financing) by a country determine the amount of financial resources available for health care, who controls the resources, how the resources are allocated, who has access to health care and how risks are pooled. For examples, under national health services, health budget is allocated by formulae. Under insurance financing, benefit package design significantly affects resource allocation and consumer demand.

  - **Resource allocation** determines how effective overall resources are being used. From the government, the budget is allocated to regions or to specific health programs. Under social and private insurance, resources are allocated by the types of services covered by the benefit package.

  - **Rationing methods** (e.g., by price, quality, waiting time, etc.) are implicitly imbedded in each financing method, and this affects both equity and efficiency.

  - **The macro-organization of financing** determines whether the demand- or supply-side imposes a budget constraint on the entire system. The varying effectiveness of the overall budget constraint affects efficiency and health expenditure inflation rates.

- **The macro-organization of health services provision**

  - **The organization of the market environment** (i.e., relying mainly on planning or competition) within which provider organizations operate. This affects the relative influence of patients (demand side), or providers (supply side) in determining the quantity and quality of services produced.

  - **Degree of horizontal and vertical integration of health services.**

  - **Locus of ownership of provider organizations.**

  - **Extent of centralization or decentralization of authority and responsibility in the public sector.**

- **Incentives for consumers and providers**

  - **Extent of cost sharing or user fees by patients.**
  - **How provider organizations are paid and what risk they bear.**
  - **How health practitioners are paid and what risks they bear.**

- **Regulations**

  - **Regulatory provisions** governing the behavior and practices of insurance organizations, physicians, hospitals, and pharmacies; accountability of these individuals, organizations and government.

- **Information/Advertising**

  - **Advertising, education and information dissemination, whether by the private sector and the government**, can influence people's beliefs, expectations, lifestyles, and preferences.

We term these five instruments the "control knobs" of a health system. There are a number of optional settings for each control knob.

B. Control Knobs for Policy

Control knobs for equitable health and health care

Many factors determine the level of health status of a population and its distribution. Health care is only one of these factors, albeit a major one. Several other determining factors lie outside the dominion of health care, for example, the education level of women, the degree of environmental pollution, and the availability of sanitation. However, the majority of the determining factors is still unclear. We do not know the relative effectiveness of policy instruments in producing equitable health. In practice, we do know how to alter people's access to health care and how to provide risk-protection. Equity in health care has four parts: equity in financing, equity in access to health care, equal level of health status, and equitable risk-protection.

Equity in health care is largely determined by the financing method. The method chosen determines who bears the cost and how it is distributed among income groups. The financing method chosen vests the financial power with different parties, and decides how the funds will be used and allocated. For example, the targeting of public funds determines who receives the health benefits. The design of insurance benefits and how risks are pooled affect who can afford expensive medical services. The rationing method chosen determines who has access to what services. For example, rationing health care by price means the poor have less access than the rich, while rationing by waiting time means the rich will be less favored because their opportunity cost of time is generally higher.

Control knobs for efficiency (cost-effectiveness)

Efficiency consist of two kinds: allocative and technical. Allocative efficiency depends on who controls financial resources and has the power to allocate those resources. The allocation of resources has to balance at least two objectives—the cost effectiveness of improving risk-protection and the level of health status.

Allocative efficiency is also affected by the incentive structure. Patient demand for health care is affected by the amount they have to pay when they demand services—either in terms of monetary price or time. Similarly, payment mechanisms for physicians create incentives to underprovide the most cost-effective services.

Technical efficiency is affected by how health services are organized and by the incentive structures facing the provider organization. For example, the organizational arrangement in which the government finances and directly manages hospitals has been shown to be relatively inefficient. Furthermore, technical efficiency is also influenced by regulations, such as those governing the use of generic drugs.

Control knobs for consumer satisfaction

Consumer satisfaction depends in part on the quality of service and the price consumers have to pay. Quality of health care consists of two kinds: technical and personal. Technical quality of health services is largely affected by organization, regulation and incentives. While the technical quality of service depends on the education and training of health practitioners, these inputs are not sufficient to assure good technical quality of services. The actions of health practitioners are also significantly affected by professional ethics, standards of practice in a community, the effectiveness of peer review, and payment incentives. International experience shows that assuring the technical quality of medical services may be the most complex and difficult issue in health care. Self-regulation has seldom worked adequately; external regulations have not fared much better and often are legally complex and expensive to administer. It appears that the most effective way forward may be organizing health practitioners into practice groups with internal peer review and external accountability.

The factors that affect the personal quality of services (i.e., quality as assessed by patients) include the organizational structure, the payment incentive structure, methods of rationing (such as rationing by waiting time) and choice of physicians.

Control knobs for managing health expenditure inflation

Steadily rising per capita health expenditure, exceeding the growth rate of per capita GDP, has exerted pressure on government budgets and household incomes. In the past twenty-five years, all advanced economies have tried to constrain their health expenditure inflation to some socially acceptable level. Beside the United States and Switzerland, the major advanced economies have found effective means to manage health expenditure inflation. The methods of financing and organizing health care seem to be key. Two approaches have proven effective when financing is through multiple insurance plans. One is to establish a global budget covering all the plans, with a single channel of payment to providers. The other approach is to finance health care with

general revenue. General revenue financing requires the health budget to compete with other social and economic priorities in the political arena. At present, the advanced economies are mostly wrestling with the question of how to control expenditure inflation in such a way that demand and supply are in reasonable balance, while improving efficiency of services and quality of care.

VI. Stages of Development

A. Characterizing Alternative Stages of Health System Development

This section presents some analytical information to help macroeconomists understand health systems and assess health policy.

To state the obvious, the same health system structure cannot be applied to all countries. Systems differ enormously among countries, due to variations in socioeconomic development. What works in the United Kingdom, say, may not work in Kenya. On the other hand, must every country be treated differently? Or can they be grouped into somewhat homogenous categories, and general conclusions drawn for each?

A country's level of health status and its capacity to finance and organize health care are highly correlated with that country's per capita income. Besides household income, several other major factors that are also highly correlated with income have been found to affect the level of health status: sanitation conditions, nutritional status, educational attainment, and availability of health care. Income also determines household capacity to pay for health care and demand services. On the supply side, several factors that are also highly correlated with national income determine the medical technology used for the treatment of illnesses. These factors include economic infrastructure (roads, electricity, telecommunications) and investment in training of health practitioners. The roads and transportation available influence the number and the spatial distribution of clinics and hospitals. This in turn affects the economies of scale and scope of medical services and vaccine/drug distribution systems.

Using cluster analysis, we have identified three "distinct" groups of countries. For ease of understanding, we show the groupings of countries by their per capita GDP range. Of course, the boundaries between these groups are artificial, because the distribution of countries by income is continuous. Thus, although we term each grouping a "stage of health development," this term should not be misinterpreted as referring to discrete stages. The health system also changes because as income and disease patterns change, gradually the health system also changes.

Table 3 presents examples of countries in each of the three stages of health development and summarizes the financing and service provision in each stage. A more detailed description of each stage follows the table.

Table 3. Health Care Financing and Service Provision, by Stage of Economic Development

(Percentage shares relate to proportion of population in each category of coverage)

	Stage I		**Stage II**	**Stage III**
	Poor countries	Low-income countries	Middle-income countries	Higher income countries
	per capita GDP (below 1,800)*	per capita GDP ($1,801-5,000)*	per capita to GDP ($5,001 to $12,000)*	per capita to GDP ($12,001 and above)*
General revenue financed + donor assistance	Public health, disease prevention Public health services (clinics, hospitals) (50-60%)	(40-50%)	Public health service (20-40%)	NHS (U.K., N.Z.) Medisave + Catastrophic Insurance (Singapore)
Social insurance	For civil servants and employees of large firms	(10-20%)	Social insurance (30-60%)	Direct provision ➡ NHI (Canada, Australia) Indirect provision ➡ Bismarkian Social Insurance (Germany, Japan)
Private insurance	Negligible	(5-10%)	Private Insurance (15-40%)	Managed care + medicare (U.S.)
Self-pay	Private hospitals and clinics Pharmacists Indigenous providers (35-45%)	(20-40%)	Self-pay (15-25%)	Self-pay (15-25%)

Note: Per capita GDP on a 1997 PPP basis.

For each stage of development, it is important to understand the history behind the variations in level of health status and risk-protection. Most non-Western countries' governments paid little attention to health care until Western medicine was introduced—largely by missionaries and colonial governments. After World War II, colonial powers (the United Kingdom, France, Germany, the United States, and the USSR) transported their systems of health care financing and organization to their colonies and spheres of influence. However, these systems were used only in the application of Western medicine (e.g., in the training and certification of health practitioners, the regulation of drugs, and the provision of government-financed services); patients continued to use indigenous medicine in combination with Western medicine.

B. Stage I: Poor and Low-Income Countries

Poor countries (per capita GDP below $1,800). The 60 countries in this group include Bangladesh, Haiti, India, Kenya, Mali, Nigeria, Peru, Senegal, Tanzania, Vietnam, and Yemen.

Low-income countries ($1,801-$5,000 per capita GDP. The 50 countries in this group include China, Ecuador, Egypt, Indonesia, Morocco, Peru, Philippines, and Tunisia.

At the early stage of health development, before state action, people rely on their own knowledge of hygienic and preventive practices. When they become ill, they rely largely on self-care, including self-medication. Patients also seek services from indigenous health care practitioners and pay out-of-pocket. As Western medicine enters the country, the government plays an ever-increasing role in health care. Stage I countries share many of the following characteristics with, of course, several glaring exceptions.

General description

Disease patterns

- For poor countries, communicable and infectious diseases are prevalent and are the major causes of death. A large portion of the population has no access to clean water and latrines. A high percentage of infants and children suffers from malnutrition, and many pregnant mothers are anemic. Other characteristics include a high rate of infant mortality (ranging from 70 to 130 per 1,000 live births) and a low life expectancy (ranging from 45 to 65 years).

- For low-income countries, the urban population begins an epidemiological transition; limited public resources have to deal simultaneously with communicable and chronic diseases.

Health spending, uses of resources, and health outcomes

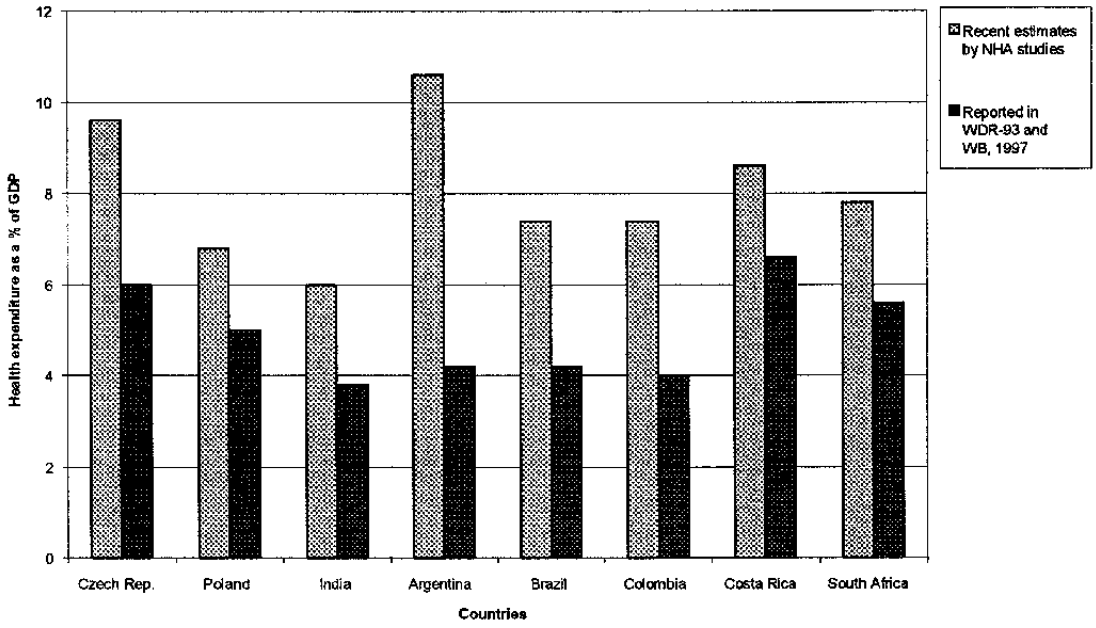
- In poor and low-income countries, the government finances a large portion of national health expenditure, but a significant share—often close to half—is paid directly by the patients. However, government statistics on national health expenditure usually *understate* the amount spent, because they omit or underestimate private spending. Figure 4 shows the difference between actual national health expenditure and official/government statistics.

- In general, Stage I countries allocate only a small portion of their government budgets (less than $2 per capita, on 1997 PPP basis) to public health and prevention. Two-thirds or more of the public health budget is spent on hospital services, and the medical center located in the capital receives half the total hospital budget. Although most of the population lives in the rural areas, most of the public health budget is spent on services used by the urban population.

- Cost-effectiveness. Health outcomes vary greatly among these countries; for example, although India and Sri Lanka are neighbors, their infant mortality rates are respectively, 73 and 17 per 1,000 live births. The difference does not lie in health spending: Sri Lanka spends less of its GDP on health than India, yet Sri Lanka's infant mortality rate is one-fifth that of India's. China also spends less of

its GDP on health than India, yet its rate of 42 per 1,000 live births compares favorably to India's 73.

Figure 4: Comparison of Actual National Health Expenditure and Government Statistics on Health Expenditure (As percent of GDP)



Source: Berman, 1999.

Government capacity and performance

- In all Stage I countries, central government revenue (as a percent of GDP) is relatively low—typically below 15 percent. The government has large budget deficits and large debts. These governments, therefore, have very limited resources to fund health care.

- Health issues are given a low priority by Stage I countries, resulting in a lack of national strategy for health development. For example, these governments usually divorce their medical education and pharmaceutical industry policies from their health policies. Moreover, health spending by ministries of education are often as large as those of ministries of health, because the former funds and manages the medical centers that provide clinical training to medical graduates. This spending, however, may have little impact on improving the level of health status.

- Public health services are inefficient: excess capacity is often found at lower-level facilities. Using stochastic production frontier models, studies of several low-

income countries have found the inefficiency to be between one-third and one-half of spending.

Supply and use of services

- Although public health and disease prevention programs sponsored and funded by donors may be especially effective, other public health programs are often underfunded and poorly managed.

- For minor illnesses, most of the population relies on self-care and self-medication. In rural areas, most of the governments in these countries establish and fund health stations, staffing them with modestly trained health practitioners or recent medical school graduates. However, in fact, these primary care services exist only on paper. Those that do exist offer poor quality of service, inadequate drug supplies, and inconvenient clinical hours. Many of these health stations are staffed with two health practitioners and see only three or four patients on an average day. Patients often prefer to go to an indigenous medical practitioner and pay out-of-pocket. In urban areas, patients generally go to private practitioners. Surveys commonly find that urban patients obtain more than half their outpatient services from the private sector.

- For serious illnesses, the affluent seek hospital services from the private sector, when available; most, however, use the free (or heavily subsidized) government hospital services. These serve as de facto health insurance for most people. These services, however, are rationed by waiting time and by poor service quality. Frequently, the experienced hospital medical staff hold two jobs—in a hospital and in a private fee-for-service practice. In many of these countries, physicians earn the vast majority of their income from private practice, spending only a modest amount of time at the public hospital, the rest at their private practice. In public hospitals, physicians self-refer the more affluent patients to their private clinics.

A three-tier system

This section describes the common characteristics of health care for countries in the first stage of development, to give policymakers a general understanding of health care systems. However, as with any generalization, there are exceptions and variations.

Stage I governments accept responsibility for providing all necessary health care for their citizens. But do these governments allocate sufficient funds for health programs? And how effectively are their services delivered?

Most of these countries give insufficient priority to public health, disease prevention, and maternal and child health services, and do not allocate sufficient funds to these programs. When international donors support these programs, most governments establish vertical programs to deliver the specified services. Common donor-funded preventive or primary services include programs for extended disease prevention and immunization, maternal and child health, family planning and treatment for malaria, TB, and HIV/AIDS. Each vertical program creates its own

bureaucracy, clinics, and supply systems. These programs often overlap, competing for the limited number of trained health practitioners and equipment. The sustainability of these programs is therefore in jeopardy once the donors withdrew their funding.

On paper, many of these governments also take responsibility for organizing, managing, and delivering primary, secondary, and tertiary curative services to all citizens. However, few governments can fund and deliver these services adequately. Consequently, the **financing and provision of health services is segmented into three tiers, according to the patient's ability to pay for services.**

The **first tier** consists of affluent households which pay directly and demand services from better-qualified, private sector physicians. (Most private sector physicians are employed by public sector hospitals, but have a private practice on the side, although few high-reputation physicians may have only private practices). These affluent households also demand secondary in-patient hospital services from private (for-profit and not-for-profit) hospitals. Private physicians and hospitals charge high fees for their services—these services are therefore rationed by price. However, affluent households demand sophisticated and expensive tertiary services from public teaching hospitals, which charge very low fees. These services are delivered by public hospitals partly because of the lack of private capital to invest in this level of facilities and partly because the few qualified medical specialists are on the faculty of the medical schools. For other services, affluent households demand care from private sector providers rather than obtain the almost-free services from public providers because of the availability of drugs and supplies, shorter waiting times, choice of physicians, greater personal attention, and other amenities in the private sector.

The **second tier** consists of middle-income households, which are covered by the government's pay-as-you-go social insurance system. This system insures civil servants and workers employed by (usually, only the) large enterprises. The social insurance plan selects and contracts with public and private facilities to provide services. These facilities charge the plan on a fee-for-service basis. The fee schedule may be negotiated between the parties or set by the insurance plan. Tertiary services are contracted from medical centers. Services are rationed by waiting time and poor service quality (e.g., unfriendly health practitioners). Some large enterprises have their own hospitals and clinics, which they build to assure cost control and availability of high-quality services.

The **third tier** consists of poor and low-income households (most of the population), which rely on public facilities for health services. Most poor households reside in rural areas, some in urban ghettos. Although public health services are nearly free, the waits are often long, physicians are not on duty, clinic hours are inconvenient, facilities are dilapidated and crowded, drugs and other supplies are unavailable, and providers are unfriendly. Therefore, when the problem is not life-threatening, these patients often resort to self-care, self-medication, or indigenous practitioners. As a result, household expenditure surveys consistently find that poor and low-income households spend a significant portion of their income on drugs and indigenous medicines.

Table 4 summarizes this three-tier system.

Table 4. Economic Development Stage I. Three-Tier Health Care System

	Source of financing	Services provided
Affluent households	Self-pay	Disease prevention and drugs Primary care and secondary services from private sector
	Government	Tertiary services Public health
Middle income households Civil servants and formal sector employees	Social insurance	Disease prevention and drugs Primary care and secondary services from private sector
Others	Self-pay	Disease prevention and drugs Primary care and secondary services from private sector
	Government	Tertiary services Public health
Poor and low-income households	Self-pay	For minor illnesses: self-care, self-medication, and indigenous and private practitioners
	Government	Primary care, public health and disease prevention For serious illnesses: specialist services and in-patient hospital services

Generic models of health care financing and organization

Stage I has three generic models of health care financing and organization: government-oriented, central-planning, and market-oriented. A three-tier health care system is prevalent in countries that follow the government-oriented and market-oriented models, a two-tier system in countries that follow the central-planning model. A description of each model follows.

Government-oriented model (e.g., Bangladesh, India, Kenya, Nigeria, and Sri Lanka)

Financing. Under this public health service model, the government focuses almost exclusively on the financing and delivery of public health services. It takes a position of benign neglect toward other forms of health financing, such as social insurance or community financing, which are free to develop on their own without government policy and support. As a result, these other forms of health financing are usually insignificant and underdeveloped.

Macro-organization. The government organizes, funds, and operates a network of health facilities at three levels: subdistrict, district, and provincial. Health practitioners, employed by the government as civil servants, are assigned to the facilities, the number and staffing of which are based on "needs" criteria that ignore demand considerations. The facilities at each level have

specific assigned duties to provide preventive services, primary care, and hospital services. Everyone has equal access to these services.

In most countries, government facilities are underfunded, poorly managed, and short on drugs and supplies. Public health and preventive services are also poorly managed. Therefore, for primary care services, most patients resort to self-care or pay to see indigenous providers. As a result, the supply of public health services usually far exceeds demand at the subdistrict level. The hospital services provided at the district and provincial levels are overcrowded, however, The demand far exceeds supply. These services are rationed by waiting time, poor service quality, and supply shortages. Patients often have to buy their own drugs and surgical supplies for operations. In many cases, services are rationed by under-the-table payments.

Incentives. At the district and provincial levels, underpaid physicians supplement their government salaries by establishing private practices, to which they self-refer affluent patients from the public facilities. Physicians can charge high fees in the unregulated private market. The more qualified physicians earn most of their income from their private practices. The high financial reward offered by private practices leads to high absenteeism and other abuses.

Regulations. With a limited capacity to establish and enforce reasonable regulations, the government usually adopts a laissez-faire position toward private sector providers, leaving them to practice without having to be licensed or regulated. Private pharmacies dispense potent drugs without prescription, and pharmacists' assistants advise patients on what drugs to take. Private insurance also operates in a laissez-faire environment. However, few private insurance plans survive in Stage I countries, because there is little safeguard against fraud and abuse by patients and providers.

Market-oriented model (e.g., Indonesia, Morocco, the Philippines)

Financing. Under this model, the government still finances a large share of health expenditure, but plays a more active role in developing social and private insurance. The government establishes, through legislation, a compulsory social insurance program for formal sector employees and civil servants. The government may use tax incentives to promote private insurance and subsidize private hospitals directly or through tariff policies on imported equipment and supplies.

Private insurance usually charges high premiums and is affordable only to the affluent. Private hospitals are affordable only to the affluent and privately insured populations.

Macro-organization. The state plays the major role in organizing, funding, and operating a network of health facilities at three levels, based on the "needs criteria." Everyone has equal access to services provided by government-funded facilities; however, as with the government-oriented model, these facilities are usually poorly managed and underfunded, provide poor quality services, and suffer a pervasive imbalance between supply and demand.

Frequently, private insurance plans establish their own clinics, employing physicians and selecting and contracting with private hospitals to serve their insurance. This form of integrating the financing with provision of services is akin to staff model HMOs in the United States. In

low-income countries, they are called prepaid medical plans. The private insurance plans employ their own physicians and operate their own clinics to avoid fraud and abuse. There is little competition between private and public hospitals because they serve different clients. In essence, the private hospitals serve a niche market.

Incentives. As under the government-oriented model, the underpaid physicians in the public sector hold two jobs. In the private sector, private insurance may pay its contracted general practitioners by capitation and establish a fee schedule for specialists and private hospitals. Many private providers "balance bill"—charge patients an additional amount beyond what the private insurance plan pays.

Regulations. The government often uses regulations to promote private insurance and hospitals. For example, in the Philippines, the government allows private prepaid medical plans to form an informal cartel to set prices and inhibit new insurance products.

Central-planning model (e.g., China before 1985, Cuba, Vietnam)

In this model, the government emphasizes public health and disease prevention. It promotes community initiatives and mobilizes resources at the community level, deploying modestly trained health practitioners to deliver health education and primary care in the rural communities. It also makes essential drugs available at modest cost.

Financing. Under this model, countries typically spend a smaller portion of their GDP on health care than under the other two models yet provide significantly better health outcomes for their populations. The government directly finances only a small portion of national health expenditure, but organizes and manages social insurance for formal sector workers and community financing for primary care in rural areas. The government deploys trained personnel to provide health education and primary care services, and makes available essential drugs at modest cost. Public hospitals are funded by payments from social insurance and community health funds, user fees, and government subsidies.

Macro-organization. Health care is a three-level network, where the government subsidizes and manages only the two upper levels of services—district health centers and hospitals. The local communities fund and manage the lowest level—primary care stations. The government also operates a centrally controlled vertical program for public health, disease prevention, and family planning. Programs such as health education, immunization, and maternal and child health are often quite effective. A central drug distribution system assures availability of essential drugs for most people. Private practices are forbidden, except for retired physicians. Private hospitals, private pharmacies, and private insurance plans are also prohibited.

For most of these countries, demand exceeds supply for hospital services; at the two lower levels—health centers and primary care stations—supply exceeds demand. Tertiary hospitals are extremely crowded, whereas lower-level facilities frequently are idle.

Incentives. All government physicians and health practitioners are salaried, and given lifetime job guarantees. Promotions are based on seniority. As a result, the personal quality of service is usually abominable and patients are put on long waiting lists to see senior specialists. Because

under-the-table payments and private practices are forbidden, political power and personal connections are often relied upon to bypass queues.

Differences between poor and low-income countries

The major differences between poor and low-income countries are (a) the size of the affluent population, (b) the portion of the population employed in the formal sector, and (c) the ability and capacity to manage social insurance efficiently. These differences influence public resource allocation and the effectiveness of social insurance.

The growing affluent population affects the allocative efficiency and equity of the health sector. The impact is most pronounced for countries that adopt the market-oriented approach (e.g., the Philippines, Morocco, and Indonesia). The affluent and powerful populations—most of whom live in the capital—demand the most modern medical services from the public hospitals. They also demand that the government fund new medical centers—heart institutes, transplant centers, and oncology centers are the most requested—and provide high-technology treatments. On the supply side, U.S. medical schools are eager to export their latest knowledge and technology, partly due to the country's surplus of specialists.

This global market for new medical technology has placed a further strain on the treasuries of poor and low-income countries, resulting in reduced public funding for the poor and for public health services that results in a decrease in the quality of services. The private market for primary and secondary services expands rapidly to meet the demand from the increasing number of affluent and middle-income households that induces a greater number of public sector physicians to establish private clinics and laboratories, charging high fees for their services. The high cost of private medicine leads the higher-income households to demand insurance coverage. At this point, most market-oriented countries offer tax incentives for the development of private insurance. Large corporations also begin to provide self-administered health insurance benefits to their employees.

The growing number of formal sector employees offers an opportunity for a country to expand its social insurance. Most Latin American countries established their embryonic Bismarkian social insurance systems at this stage. At the same time, with an increasing knowledge base and managerial expertise, the social insurance plans of low-income countries frequently establish direct provision of health services. Under direct provision, the insurance plan organizes and manages its own hospitals and clinics, employing physicians on salary and centralizing the purchase of drugs and other supplies. Insured patients must obtain their health services from the facilities run or contracted by the insurance plan. Usually, these facilities offer a relatively high quality of services—lower than what is offered in the private sector but higher than that offered by government facilities. The direct provision of services for the insured creates a clearly definable new tier of financing and provision of health care. By creating a separate institution to finance and deliver health services, the social insurance plan creates a new political interest group.

Comparison of performance

Table 5 shows the outcomes by model for selected low-income countries. In terms of cost-effectiveness, the central-planning model clearly outperformed the other models. The countries that adopted the central-planning model spent less of their GDP on health care but achieved better health outcomes and risk-protection for their citizens. Table 6 shows how well the three models performed in attaining health objectives.

Guideposts for macroeconomists

In general, macroeconomists should rely on the guidance of the World Bank and WHO in appraising the performance of a country's health care system and in supporting the policy advice offered by these institutions. Some broad background, however, is useful for macroeconomists to be aware of.

- **In assessing a health care system's performance**—macroeconomists can compare the country's input and output indicators with those of a best-performing country and a median-performing country. The input indicators could be health care spending, available facilities, and human resources. The output indicators could be the level of health status, risk-protection, and the equity and efficiency of both. Table 7 gives a benchmark country for a "best" performing Stage I country and Table 8 gives a benchmark for a "median" performing Stage I country.

- **Broad recommendations** based on the experiences of countries around the world. A country should take the following important policy measures in order not to repeat other countries' mistakes.

    - A rational and coherent overall health policy, so resource allocation can be rationalized and health programs in various ministries coordinated;

    - A cabinet-level committee, chaired by the deputy prime minister, to review and monitor health policy implementation;

    - A list of essential drugs, so bulk purchases can be made through an international bidding process, and so an organized, nationwide distribution system can be established;

    - Avoidance of a fee-for-service payment system for social and private insurance. This type of payment system increases health care cost inflation;

    - Caution in accepting donor gifts of tertiary hospitals. Because the recurrent cost for a tertiary hospital can absorb a significant portion of a country's health funds, a careful assessment of the costs and benefits of accepting such a gift should be made; and

Table 5: Health Expenditure and Results by Model, for Selected Low-Income Countries

	Per Capita GNP (on 1997 PPP Basis)	Percent of GDP Spent on Health		Level of Health Status			Risk-Protection
		Total 1997	Government 1997	Life Expectancy 1997	Infant Mortality Rate, 1997 (Per 1,000 live births)	Under-Age-5 Mortality Rate, 1997 (Per 1,000)	
Government-oriented model							
Bangladesh	1,090			58	75	104	L
India	1,660	6.0	1.3	63	71	88	L
Kenya	1,160			52	74	112	L
Nigeria	860			54	77	122	L
Sri Lanka	2,460	3.5	1.7	73	14	19	H
Market-oriented model							
Indonesia	3,390	3.8		65	47	60	L
Philippines	3,670	3.7		68	35	41	M
Central-planning model							
China*	1,680*	3.3*	0.4	67*	42*	52*	M
Vietnam	1,590			68	29	40	M

Sources: Berman ,1999; Indonesia , 1998; World Bank, 1992, 1999a, 1999b.

* Data for China are for 1985, prior to China being impacted significantly by its economic transition, so comparison with other poor countries could be made.

Note: L, M, and H denote low, medium, and high, respectively.

Box 1. A country with exceptional performance—Sri Lanka

Among the Stage I countries, Sri Lanka stands out in its health achievement under the government-oriented health service model. In 1996, other countries in this category had infant mortality rates of 61-114 per 1,000 live births, while Sri Lanka had a rate of 17 per 1,000 and a life expectancy of 73 years, and spent only $2 per capita (on a 1996 PPP basis) for health care. These enviable accomplishments seem to be the result of two key factors. First, Sri Lanka has created *a professional culture* for its health care practitioners: they place professional commitments first, self-interest second. Despite low pay and poor working conditions, they are dedicated to their public health duties. Although most experienced public sector physicians have private practices on the outside and earn most of their income from these private practices, they still work their full shift for the public facilities and perform their duties faithfully. They do so voluntarily, without tight management. Second, Sri Lanka has established a well-organized system at the village level, staffed by midwives who provide effective health education and basic primary care for mothers and children.

- Avoidance of a ministry of health and/or social insurance plan funding and managing their own facilities. The ministry can become "captured" by the ministry-employed health practitioners, resulting in their interests dominating over patient interests.

- **Some elementary policy strategies**—certain policy strategies will improve health care system performance, including the following:

  - Introduction of, or increases in, taxes on tobacco;

  - Avoidance of across-the-board cuts in health programs. If cuts are necessary, they should be made in tertiary and university hospitals, which are less cost-effective and do not offer risk-protection to low- and middle-income households; and

  - Development of a coherent health financing plan that includes developing social insurance to fund tertiary and hospital services for the urban population; shifting current government funds to subsidize the urban poor and rural populations; developing community-level financing for rural residents; targeting hospital subsidies to ward services; charging user fees for A-class ward services, based on their full cost plus a profit margin; and using the profits to cross-subsidize ward services.

Table 6. Comparison of Health Care System Performance: Low-Income Countries

	Equity in						Cost-Effectiveness	
	Level of Health Status		Access to Basic Services		Degree of Risk-Protection			
	Rating	Strategy and Results	Rating	Strategy and Results	Rating	Strategy & Results	Health	Risk-Protection
Government oriented model	L	F: General-revenue financing O: Minimum inter sectoral coordination Govt-operated programs and facilities • Inadequately funded, poorly managed public health services • Poor nutrition and public health Large differences in level of health status between rural and urban populations, and between rich and poor	M	F: Rationing by quality of service Budget allocation by formula, not by need I: Budget for public facilities based on plans Salaried civil service health practitioners • Poor quality of services • Shortages of drugs and supplies Equal access to public health services. Some patients have to pay for own drugs and supplies	L	F: Govt-funded free health services Protection for large hospital expenditures, but varies depending on whether supplies and drugs are available	High spending for health, low efficiency, poor outcome, except for a few countries such as Sri Lanka	High spending, modest protection for most of the population
Market -oriented model	L	F: General revenue + Social Insurance + prepaid medical plans Subsidize private sector facilities O: Minimum intersectoral coordination Govt-operated programs and facilities • Inadequate funding, poorly managed public facilities • Poor public health and nutrition • Misallocation of resources Large differences in level of health status	L to M	F: Rationing by price and quality budget allocation by formula Private insurance serves narrow market I: Budget for public facilities based on plans Salaried civil service health practitioners • More adequate funding for public health services • Large quality difference between public and private sector services Equal access to public hospitals, unequal access to (price-rationed) primary care	L to M	F: Govt funded free hospital services Social insurance for some formal sector workers Protection for large hospital expenditures but varies by the availability of drugs and supplies. Insurance for those covered by social insurance	High spending, poor outcome, except for a few countries	High spending, modest protection for most of the population
Central-planning model	H	F: General revenue + Social Insurance + Community financing + user fee Better intersectoral coordination O: Govt-operated hospitals Community-operated primary care Social mobilization • Better public health, health knowledge, and nutrition • Availability of essential drugs and primary care Medium differences in level of health status	H	F: Rationing by quality and price at different levels of service O: Community-level control of primary care Social mobilization R: Low price for drugs and services Equal access to primary care, essential drugs, and public hospitals	H	F: Govt-funded public hospitals charging low user fees R: Low prices for essential drugs Protection for large hospital expenditures and drug outlays	Low spending, good health outcome	Low spending, medium protection for most, modest protection for the poor

F, O, I, and R denote financing, macro-organization, incentives, and regulations, respectively.
L, M, and H denote low, medium, and high, respectively.

Table 7. Sri Lanka: Input and Output Indicators of a Best Performing Low-Income Country.

INPUT INDICATORS		OUTPUT INDICATORS							
		Aggregate			Equity in			Efficiency in	
		Level of Health Status							
		Infant Mortality Rate, 1997 (Per 1,000 live births)	Life Expec-tancy 1997	Risk-Protection	Net Benefits	Access to Health Care	Risk-Protection	Health Care	Risk-Protection
Health expenditure per capita, (1997 PPP basis)	37.6*	14	73	H	H	H	M/H	H	H
Health expenditure, total (as percent of GDP)	2.9								
Hospital beds (per 1,000 people)	2.7								
Physicians (per 1,000 people)	0.1*								

Source: World Bank, 1999a and 199b.
Data are for 1990 except those marked with (*), which are for 1993.

Table 8. Belize: Input and Output Indicators of a Median-Performing Low-Income Country.

INPUT INDICATORS		OUTPUT INDICATORS							
		Aggregate			Equity in			Efficiency in	
		Level of Health Status							
		Infant Mortality Rate (Per 1,000 live births)	Life Expec-tancy	Risk-Protection	Net Benefits	Access to Health Care	Risk-Protection	Health Care	Risk-Protection
Health expenditure per capita, (1997 PPP basis)	158.0	44.6	73.2	M	M	L	M	M	L
Health expenditure, total (as percent of GDP)	4.7								
Hospital beds (per 1,000 people)	2.7								
Physicians (per 1,000 people)	0.6								

Source: World Bank, 1999a.

C. Stage II: Middle-Income Countries (per capita GDP Incomes of $5,001-12,000, on 1997 PPP basis)

General description

In Stage II, health care financing and provision systems are more distinct. As the size of affluent and middle-class populations increases with economic growth, health systems become more clearly segmented into two or three tiers, depending on whether a country has developed a strong social insurance program. In the first tier, private insurance usually covers the top income group, which may consist of 10-20 percent of the total population. These privately insured obtain their health care largely from private clinics and hospitals. For the rest of the population, financing and provision depend on which of three models the country uses.

Generic models

National health service model (e.g., Malaysia and Turkey)

Financing. Under this model, the government gives priority to developing the public health service and funding it adequately. Health practitioners receive reasonable salaries; drugs and medical supplies are available; and everyone has equal access to these public services. However, the demand for hospital outpatient and inpatient services exceeds supply, resulting in rationing (e.g., by long waiting time, lack of physician choice, and unfriendly practitioners). Consequently, for minor illnesses, middle-class patients still seek private sector services and pay out-of-pocket. In fact, medical care becomes a two-tier system: private sector services and public health services.

Macro-organization. The government operates the public health services as a three-level system—hospitals, health centers, and primary care clinics. However, because countries have become more urbanized, most people at the district level live close to a city, and bypass the district-level facilities to go to the city's public hospitals. At this stage of health development, private sector providers expand beyond their previous niche market and the private hospitals and clinics actively compete with the public facilities by offering better quality services. Although the public health services are free or nearly free, many middle-income households are willing to pay out-of-pocket for these higher-quality private services.

Incentives. With an increase in the number of middle- and high-income households, private sector physicians can charge high fees and earn top incomes. The higher income potential in the private sector attracts many experienced and well-qualified physicians from the public sector. Unless the government increases physicians' salaries, the public health service loses its most qualified and experienced physicians. This competition for health practitioners exerts high pressure on the health budget.

Regulations. The government usually continues its position of benign neglect toward private insurance and private providers, who therefore operate very much in a laissez-faire environment.

Social insurance model (e.g., most Latin American countries)

Financing. Under this model, the government's compulsory social insurance plan covers workers in the formal sector; this plan is usually financed by a payroll tax, although the government continues to fund and operate a three-level public health service. The uncovered, nonaffluent households rely on public hospitals for inpatient services; however, when they have minor illnesses, they pay out-of-pocket and seek services from the private sector.

Macro-organization. The social insurance plan establishes a separate system of clinics and hospitals; the insured have to obtain their services from these facilities. Although this monopolistic power reduces the incentive for these facilities to be efficient and offer quality services, they are usually fairly well funded, their staff is adequately paid, drugs and supplies are available, and the availability and quality of services are much better than those of public health services. These countries therefore have a distinct three-tier system: private, social insurance, and public health service. These tiers operate independently of each other, without much crossover or competition.

Incentives. Physicians and health practitioners are salaried when they are employed by the social insurance plans or the public health service. Labor strikes are frequent. Patients have little choice regarding where they can obtain services, so the public and social insurance hospitals operate much like monopolies since insured patients have to use their services or else pay large sums out-of-pocket.

Regulations. In most of these countries, the regulation of health care providers, private insurance plans, and private hospitals is inadequate. Most of the private sector operates in a laissez-faire environment. Few countries have adequate accreditation programs for health practitioners or for monitoring service quality.

Market-oriented model (e.g., Thailand)

Financing. Under this model, the government uses various policies to encourage the development of private and social insurance. A majority of the population is covered by either private or social insurance. The government either establishes a separate insurance plan for poor and low-income households and subsidizes their premiums (e.g., Thailand's health card) or pays for their health services (e.g., Lebanon). To be eligible for the government subsidy, the household must meet a means test. These households can also choose to go to private sector providers.

Macro-organization. Countries continue to fund and operate a network of health facilities that provide low-cost services (e.g., Thailand). The supply of public health services is far less than the demand. De facto, they serve as insurance for the uninsured. The majority of the health services is delivered by private hospitals and clinics, which compete actively with the public sector and with each other for patients. For patients who are insured, their insurance pays for these private services.

Incentives. The insurance funds usually pay hospitals and clinics on a fee-for-service basis. Although fees are negotiated between payers and payees, private providers can induce demand, can increase the quantity of services, and can—and often do—charge patients additional amounts above the fees received from the insurance funds (i.e., balance billing).

Consequently, these country face high rates of health expenditure inflation. In short, they experience what the United States went through in its earlier years of insurance development. To address this high health expenditure inflation, some countries (e.g., Thailand) have moved to pay by capitation.

Regulations. The government often establishes favorable regulations to promote private insurance and private hospitals. These regulations may include tax subsidies, land grants, and laissez-faire policies toward monopolistic practices and pricing.

Comparison of performance

Table 9 compares the performance under the three models. The public health service model (e.g., Malaysia) seems to outperform the other two. The high spending and low outcome under the social insurance model may be particular to Latin America because social insurance can be very politicized in that region. Consequently, social-insurance-managed health facilities appear very inefficient and at times may be a source of corruption.[3]

Table 9. Middle-Income Countries: Health Care Expenditure and Results by Model

	Per Capita GNP on 1997 PPP Basis (US dollars)	Percent of GDP Spent on Health		Level of Health Status			Risk-Protection
		Total 1997	Public 1997	Life Expectancy 1997	Infant Mortality Rate 1997 (Per 1,000 live births)	Under-Age-5 Mortality Rate 1997 (Per 1,000)	
Public health service model							
Malaysia	7,730	4.0	...	72	11	14	H
Turkey	6,470	5.8	...	69	40	50	M
Social insurance model							
Colombia	6,570	7.5	...	70	24	30	M
Argentina	10,100	10.8	...	73	22	24	M
Costa Rica	6,510	8.6	3.0	77	12	15	H
Market-oriented model							
Thailand	6,490	6.2	...	69	33	38	M

Sources: Berman, 1999; World Bank, 1999a.
Note: L, M, and H denote low, medium, and high, respectively.

Table 10 compares the performance of the three models and analyzes how they affect the level and distribution of health status and risk-protection, and the cost-effectiveness of their systems. As for equal access to health care, the middle-income countries have the economic capacity to

[3] As reflected in the case of the USA, such inefficiencies are not limited to social insurance models.

Table 10. Middle-Income Countries: Comparison of Performance by Model

	Equity in						Cost-Effectiveness	
	Level of Health Status		Equal Access to Reasonable Services		Degree of Risk-Protection		Health	Risk-Protection
	Rating	Strategy & Results	Rating	Strategy & Results	Rating	Strategy & Results		
Public health service model (Malaysia)	M	F: General revenue provides adequate funds O: Govt-operated programs and facilities ↓ Public health service available to all Poorly managed public health services ↓ Medium differences in level of health status	H	F: Rationing by quality of services I: Budget for public facilities *Salaried civil service health practitioners* ↓ The affluent demand higher quality, go to private sector providers ↓ Two tiers in quality of services	M/H	F: Adequately funded free public health service ↓ Public health services offer basic protection to all citizens	Modest spending, good health outcome	Modest spending, good protection for all
Social insurance model (Latin American countries)	L	F: General revenue financed public health services used by the poor Compulsory social insurance Private insurance ↓ Large differences in level of health status	M	F: Rationing by quality of service I: Budget for social insurance and public facilities *Salaried civil service health practitioners* ↓ The affluent demand higher quality, go to private sector. Social insurance has more funds and provides better quality of services ↓ Three tiers in quality of services	M	F: Govt-funded free public health services Social insurance for formal sector workers ↓ Public health services, when available, offer basic risk-protection for the uninsured	High spending, modest health outcome	High spending, good protection for the insured. Protection for the low-income and poor depend on availability of public health services
Market-oriented model (Lebanon, Thailand)	L	F: General-revenue financing for public health services or insurance for the poor Compulsory social insurance Private insurance ↓ Large differences in level of health status	M	F: Rationing by quality of services and by price ↓ Three tiers in quality of services	M	F: Govt-funded free public health services Social insurance for formal sector workers Private insurance for the high-income ↓ Public health services, when available, offer basic risk-protection for the uninsured	High spending, modest health outcome	High spending, good protection for the insured. Protection for the low-income and poor depend on availability of public health services

F, O, I, R denote financing, macro-organization, incentives, and regulations, respectively.
L, M, and H denote low, medium, and high, respectively

provide equal access to only "reasonable" health services. The affluent and upper-middle-income households do pay out-of pocket for services that provide better personal quality, such as convenience, amenities, and physician/hospital choice.

Guideposts for macroeconomists

- **Useful data**—in assessing health system performance, three types of data should be sought: a copy of the national health account, compiled according to international standards; the latest statistics on the infant mortality rate; the under-age-5 mortality rate and life expectancy; and per capita public health spending for the poor.

  The national account should reveal what portion of the public health budget was allocated to public health, disease prevention, and maternal and child health—it should be at least 10 percent.

- **In assessing performance**—macroeconomists should make a quick assessment of the health care system's performance, by comparing the country's input and output indicators with those of a best-performing and a median-performing country. The input indicators could be health care spending, available facilities, and human resources. The output indicators could be level of health status, risk-protection, and the equity and efficiency of both. Tables 11, 12, and 13 provide the benchmarks for Stage II countries.

- **In reviewing policy programs**, it is important to determine whether there is a misallocation of public resources. A poor level of health status, especially high infant mortality rates, indicates that the country either underfunds public health and preventive programs or is ineffective in the delivery of these services. These problems are likely to occur for poor and low-income communities, particularly in the rural areas and urban ghettos.

- If the poor health status is due to inefficiencies in the public health and social-insurance-operated facilities, the poor management (or corruption) can be remedied by separating the financing function of the social insurance fund from its health-service-provision function. Using the principles of competition to improve efficiency and quality of services, the patient should be given a choice of where to seek services—public or private sector—and the payment for the services should follow the patient. In other words, the public or social-insurance-operated facilities would not automatically receive a budget—they would have to compete for patients.

- **Targeting public funds**—For the countries operating under either the social insurance or the free market-oriented model, most of the public budget should be allocated to subsidize the poor and low-income households.

Table 11. Malaysia: Input and Output Indicators of a Best-Performing Middle-Income Country

INPUT INDICATORS		OUTPUT INDICATORS							
		Aggregate			Equity in			Efficiency in	
		Level of Health Status							
		Infant Mortality Rate (Per 1,000 live births) 1977	Life Expec-tancy 1977	Risk-Protection	Net Benefits	Access to Health Care	Risk-Protection	Health Care	Risk-Protection
Health expenditure per capita, (1997 PPP basis)	211.5*	11	72	H	M	H	M/H	M/H	M/H
Health expenditure, total (as percent of GDP)	4.0								
Hospital beds (per 1,000 people)	2.1								
Physicians (per 1,000 people)	0.4								

Source: World Bank, 1999a. Data are for 1990 except those marked with (*), which are for 1993.

Note: L, M, and H denote low, medium, and high, respectively.

Table 12. Costa Rica: Input and Output Indicators of a Best-Performing Middle-Income Country.

INPUT INDICATORS		OUTPUT INDICATORS							
		Aggregate			Equity in			Efficiency in	
		Level of Health Status							
		Infant Mortality Rate 1997 (Per 1,000 live births)	Life Expectancy 1997	Risk-Protection	Net Benefits	Access to Health Care	Risk-Protection	Health Care	Risk-Protection
Health expenditure per capita, (1997 PPP basis)	452.7	12	77	H	H	M	H	M	H
Health expenditure, total (as percent of GDP)	8.6								
Hospital beds (per 1,000 people)	2.5								
Physicians (per 1,000 people)	1.3								

Source: World Bank, 1999a.

Table 13. Colombia: Input and Output Indicators of a Median-Performing Middle-Income Country

INPUT INDICATORS		OUTPUT INDICATORS							
		Aggregate			Equity in			Efficiency in	
		Level of Health Status							
		Infant Mortality Rate 1997 (Per 1,000 live births)	Life Expectancy 1997	Risk-Protection	Net Benefits	Access to Health Care	Risk-Protection	Health Care	Risk-Protection
Health expenditure per capita, (1997 PPP basis)	359.6	24	70	M	M	M	M	M	M
Health expenditure, total (as percent of GDP)	6.9								
Hospital beds (per 1,000 people)	1.3								
Physicians (per 1,000 people)	1.0								

Source: World Bank, 1999a.
Note: L, M, and H denote low, medium, and high, respectively.

D. Stage III. Advanced Economies (per capita GDP $12,001 and above, on 1997 PPP basis)

General description

All advanced economies try to manage health expenditure inflation while achieving their health care objectives. They try different approaches in the financing, organizing, paying for, and regulating of health care, yielding different outcomes. Five generic models have survived. Although the model structures vary, the basic driving forces, incentives, and constraints are similar because their objectives are similar (except in the United States).

The first objective—*equal access and universal coverage*—has been achieved in all advanced economies other than the United States. Because adequate health care is often essential to survival, most advanced economies consider equal access to reasonable health care a fundamental right.

The second objective—*cost-containment*—is a priority in health policy, driving the health care reform process in many advanced economies. Health expenditure is consuming an increasing share of national income. Most countries are struggling to establish effective budget constraints for the health sector as well as to limit the government portion of health expenditure. By the early 1980s, Canada and most western European countries did so by establishing global budgets and a single source of payment for providers. Constraining resources means rationing health and medical services. Countries have used different mechanisms for rationing, including price, limited choice of providers, waiting time and altering the professional culture of physicians for them to practice conservatively rather than aggressively.

The third objective—*efficient and high-quality health care*—has become another driving force in health sector reforms in advanced economies. In line with the increased emphasis on market processes and competition since the 1980s, sluggish performance of public health care provision has come under scrutiny. The main question is how to organize the health care delivery system and how to structure incentives to obtain maximum efficiency and quality of care. Several experiments have been undertaken to enhance the efficiency of public sector operations, such as greater use of contracting procedures, greater reliance on incentives to alter behavior, and increased emphasis on regulation.

Generic models

National health service model (e.g., the United Kingdom)

The United Kingdom's main health care objective is universal and equal access to health care. To achieve this objective, the government funds its health care primarily by general tax revenue. The health budget is apportioned to each region according to a formula that takes into account the population's need. Total health expenditure is managed through the political process, where funding for health care competes against other national needs, such as education and defense. Every citizen has equal access to the services provided by the national health service. Primary care is readily available, but less cost-effective procedures, such as hip replacement, are rationed by waiting time. As a result, 13 percent of the population purchases private insurance so that they can bypass the queues. A 1989 reform introduced an internal market, to improve efficiency and quality of health care. This reform is now being refined, to make the internal market work more effectively.

National health insurance model (e.g., Canada)

Canada also gives priority to universal and equal access to health care. This is accomplished through a national health insurance scheme, which offers every citizen free medical services (dental and outpatient drugs are excluded). The federal government and provinces jointly fund the cost of national health insurance but the program is established and administered by the provinces. The provincial health insurance plan must meet certain standards set by the federal government: coverage must be universal, comprehensive, portable, and include "all medically needed services." Patients are free to choose physicians and hospitals, but must see a general practitioner to be referred to specialists. Physicians are paid on a fee-for-service basis. Expenditure inflation is managed by establishing global budgets for hospitals and for physicians' services. Physicians' fees are set by the provincial medical associations through an internal bargaining process. This process is designed to satisfy the global budget cap. To manage the volume of services, each province monitors the quantity of services delivered by each physician. Because all claim payments are paid through one centralized agency, the provinces keep a practice profile on each physician and hospital. Medical associations are responsible for monitoring and disciplining aberrant physicians.

Social insurance model (e.g., Germany)

The German health care system is characterized by social solidarity, whereby the financial risks are pooled through a mandatory insurance system. Every worker with earnings below a specified level ($45,000, in 1996) must enroll in a sickness fund. Premiums are set as a percent of wages. A basic benefit package incorporating co-payment features is uniformly defined for all sickness funds. Patients are free to choose providers. Until July 1, 1998, expenditure inflation was managed by global hospital budgets and regional global budgets for physician services and pharmaceuticals. These global budgets were established through negotiations between the sickness fund association and medical association of each region. The changes made in July 1998 replaced the regional budgets for physician services with a fixed fee schedule and service volume targets. Regional budgets for pharmaceuticals were replaced by practice-specific soft targets. At present, it is not clear how these 1998 changes will manage expenditure inflation. Many experts expect Germany to revert to its previous strategy of global budgeting to manage health expenditure inflation.

Voluntary health insurance model (e.g., United States)

The United States emphasizes individual freedom and choice, and gives low priority to equity. As a result, it relies on voluntary private health insurance to finance health care. To prevent adverse selection, most private health insurance is sold to employees through their place of employment, which leaves the elderly, unemployed, and the poor—those who tend to need more health care—without coverage. The government has had to finance these uninsured groups: federal Medicare coverage is available for the elderly, and the states fund Medicaid to cover the poor. This pluralistic system still leaves approximately 44 million uninsured. The existence of numerous private health insurance plans weakens the plans' bargaining power with providers, yet enhances the ability of the medical providers to earn monopolistic profits, which accelerates health expenditure inflation. To balance the market power of the purchaser and seller, most large businesses support managed competition, designed and advocated by Alain Enthoven (1994). Managed competition requires complex and sophisticated organizations to manage medical practices; the administrative costs can be substantial. Furthermore, it is not clear that managed competition can contain health expenditure inflation in the long run, in spite of its success in the early years of reducing the oversupply of hospital beds in the United States.

Individual savings account (Medisave) with catastrophic insurance model (e.g., Singapore)

Singapore emphasizes individual reliance and responsibility, which is reflected in the structure of its health system. The government mandates that every worker save 6-8 percent of their annual wages for inpatient hospital and expensive outpatient procedures. This amount is deposited into an individual savings account (Medisave). Because these savings are not sufficient to cover hospital expenses, the government also has established a catastrophic insurance plan, for which the premium is paid from the Medisave account. To ensure that everyone has access to basic health services, government hospital wards are divided into classes A, B, and C. The government heavily subsidizes the cost of B and C ward services, with the patient paying a modest amount. To control health expenditure inflation, the government tried market competition—competition between public and private hospitals. This did not moderate the inflation, however, and the government reverted to planning and regulation to manage health expenditure inflation (government of Singapore, 1993)

Comparison of performance

Table 14 presents a statistical comparison of the performance of the five models. The data clearly indicate the poor performance of the voluntary insurance model.

Table 14: High-Income Countries: Health Expenditure and Results by Model

	Per Capita GNP, on 1997 PPP Basis	Percent GDP spent on health		Level of Health Status			Risk-Protection
		Total	Public	Life Expec-tancy	Infant Mortality Rate (Per 1,000 live births)	Under-Age-5 Mortality Rate (Per 1,000)	
		1996	1997	1997	1997	1997	
National health service model (e.g., U.K.)	20,710	6.9	5.8	77	6	7	Universal
National health insurance model (e.g., Canada)	21,750	9.2	6.3	79	6	7	Universal
Social insurance model (e.g., Germany)	21,170	10.5	2.2	77	5	6	Universal
Voluntary health insurance model (e.g., U.S.)	29,080	13.6	4.6	76	7	10	17% of pop. uninsured
Medisave with catastrophic insurance model (e.g., Singapore)	29,230	4.0	0.9	76	4	6	Universal

Sources: OECD, 1998; World Bank, 1999a.

Table 15 compares the structural elements and the performance of the five models.

Table 15. Comparison of Performance: Advanced Economies

Model	Equity in				Degree of Risk-Protection	Cost-Effectiveness in producing Better Health & Risk-Protection	Expenditure Inflation Control
	Level of Health Status		Equal Access to Services				
	Rating	Strategy & results	Rating	Strategy & results			
National Health Service (U.K.)	H	F: General revenue financing Allocate resources to region by "need" formula Allocate resources to fund services according to C/E criteria ↓ Modest difference in health by social class	H	F: Ration elective surgeries by queues ↓ Equal access to equal quality of health services	High: universal coverage by National Health Service	Low spending, good health outcome and universal coverage	Competition for central govt budget ↓ Very effective in managing inflation
Medisave + Catastrophic Insurance (Singapore)	H	F: General revenue financing, targeted by class of service Nearly free "C" ward service for all ↓ Modest difference in level of health status by social class	M	F: Ration by price and quality of services ↓ Universal access, but to two tiers of quality	High: universal insurance for catastrophic expenses	Low spending, good health outcomes and basic universal protection	Two sector competition ↓ Modestly effective in managing inflation
National Health Insurance (Canada)	H	F: General revenue financed national health insurance ↓ Modest difference in level of health status by region and social class	H	F: Implicit ration through conservative" medical practices ↓ Equal access to equal quality of services	High: universal insurance coverage	Medium spending, good health outcome and universal coverage	Federal govt makes provincial govt pay MC ↓ Provincial govt negotiates global budget with hospitals and with medical associations ↓ Effective in managing inflation
Social Insurance (SI) (Germany)	H	F: Compulsory SI financed by wage-based contribution General revenue financing SI for the poor to be covered by SI ↓ Modest difference in level of health status	H/M	F: Implicit ration through conservative" medical practices I: Two-tiered pricing ↓ Universal access, but to two tiers of quality	High: universal insurance coverage	Medium spending, good health outcome and universal coverage	Direct link and transparent in the cost and benefits of insurance benefits ↓ Direct bilateral negotiations between payers and payees (providers); single pipe of payment ↓ Effective in managing inflation
Voluntary Health Insurance and Managed Care (U.S.)	M	F: Employment-based insurance for working population General revenue finance for poor and elderly ↓ Unequal level of health status between the insured and uninsured and by income classes	L	F: Ration by price and by choice of providers ↓ Uninsured lack adequate access Multiple tiers of quality	Modest: 17% pop. uninsured but they have some protection by uncompensated care	High spending (partly due to high transaction costs), below average in health outcome. 17% population has no risk-protection	Competition ↓ Correct market failures by structuring powerful purchaser groups. Create competing Managed Care plans ↓ Effective in earlier years, but unlikely to be effective in the long-run

Findings

From this comparative analysis emerge three main conclusions: (1) to ensure equity the government must play a strong role in financing health care; (2) the efficiency and quality of health care can be improved with competition, incentives, and macro-organization; and (3) health expenditure inflation can be managed by establishing a "hard" budget for the health sector. Competition and demand-side measures (such as direct patient payments) have proven to be ineffective in controlling health expenditure inflation.

Guideposts for macroeconomists

All advanced economies except the United States assure their citizens equal access to reasonable health care and risk-protection. But all advanced economies are confronted with three questions: (1) Are the health systems structured in the most cost-effective way? (2) Do countries have strategic plans to deal with health care costs for their populations? and (3) Do they have effective "hard" budgets for their entire health sectors to help manage health expenditure inflation and promote efficiency?

- **In requesting data**, it is useful to obtain a copy of the national health account; statistics on the country's infant mortality rate and health expenditure inflation rate for the past 15 years; and a 25-year projection of national or social insurance program costs as a percent of GDP.

- **In assessing performance**, a quick assessment can be made of the health care system's performance by comparing the country's input and output indicators with those of a best-performing country and a median-performing country. The input indicators could be health care spending, available facilities, and human resources. The output indicators could be the levels of health status and risk-protection, and the equity and efficiency of both. Table 16 gives the benchmarks for a Stage III country—Canada.

- **In reviewing policy programs**, it is useful to compare the access to and use of health services by the bottom and the upper-quartile income groups, and to compare the access to and use of health care by rural and urban populations.

- The **cost-effectiveness** of the country's health care system depends on the availability of information on the quality of its services. Macroeconomists should request and review the outcome data on the quality of medical services.

Evidence shows that quality of health care and health expenditure inflation rates are correlated with the number of physicians per capita as well as the mix of family physicians and specialists. Assessments are desirable of whether the government has a rational medical manpower policy that is compatible with the country's health objectives.

Table 16. Input and Output Indicators of "Best" Performing Country Among Advanced Economies: Canada

INPUT INDICATORS		OUTPUT INDICATORS							
		Aggregate			Equity in			Efficiency in	
		Level of Health Status							
		IMR 1997	Life Expectancy 1997	Risk-protection	Net benefits	Access to health care	Risk-protection	Health care	Risk-protection
Health expenditure per capita, (1997 PPP $)	1724.7	6	79	H	H	H	H	M	H
Health expenditure, total (% of GDP)	9.2								
Hospital beds (per 1,000 people)	6.2								
Physicians (per 1,000 people)	2.1								

Source: World Bank, 1999a.

E. Transition Economies

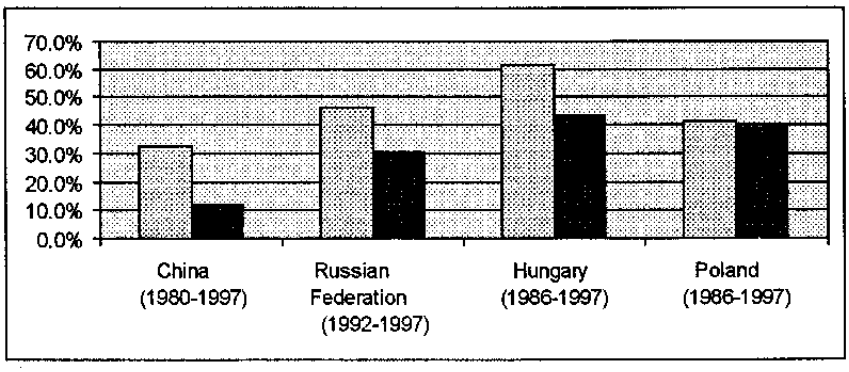
This group of countries does not fit into an analytical framework which uses stages of development. These formerly socialist countries were founded upon different ideologies. Their social, economic, and political systems were structured very differently, with the state directing and controlling most of the social and economic activities. The recent radical changes in their economic, social, and political systems have fundamentally altered the role and capacity of the state—and profoundly impacted the health sector and the health of the people. Health policies are, like these economies, moving from centrally planned to market-oriented, and from autocratic politics and governance to pluralistic (or democratic) politics and decentralized governance. Although the pattern, intensity, and speed of change has varied among these economies, common themes and experiences have emerged.

Impact of economic transition on the health sector

Economic transition has drastically changed the state's role and caused a sharp drop in government revenue. Moreover, this transition has widened income disparities, which has affected the demand for health services and thus the income expectations of physicians.

Government revenue as a percent of GDP has dropped sharply for all transition economies during the several years of initial transformation. The Chinese experience, after 1980, is most illustrative (see Figure 5). From 1980, when China began its transition, to 1996, government revenue (including ex budget) dropped from 33 percent of GDP to 14 percent of GDP. Under such circumstances, a government is also pressured by an increase in fiscal demands: price inflation causes health practitioners to demand higher wages, and the cost of medical supplies and drugs to increase. The government has to maintain its funding for social programs, such as health care, but also to provide financial support for the increasing number of unemployed. Therefore, the governments often have to reduce funding in real terms for public health services.

Figure 5. Government Revenue, as Percent of GDP



Almost all transition economies have experienced widening income disparity, which significantly affects the health sector. Affluent households are willing and able to pay much

higher prices for health services, but others cannot afford to pay. The affluent frequently offer under-the-table payments to government-employed practitioners to obtain higher quality services or shorter waiting times. Many senior physicians at public hospitals may be attracted by and leave public employment for the financial incentives of private practice; to retain them, the government has to offer higher wages and benefits, which further increase costs. The same market dynamics occur for hospital services: for-profit hospitals respond to the demands of the affluent by supplying expensive high-technology services. To compete, most public hospitals then demand the same.

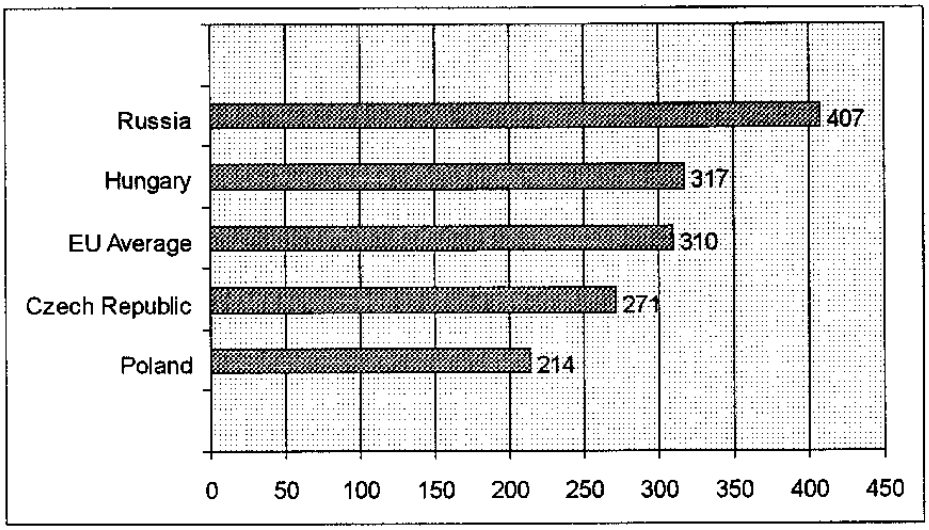
Widening income disparities have another impact on the health sectors of transition economies: they can quickly create in health practitioners the dissatisfaction that their incomes are no longer in the country's highest ten percent. Many then turn to corrupt practices, such as asking for the under-the-table payments from patients and accepting kickbacks from pharmaceutical companies. To avoid these problems, many governments have chosen to allow government-employed physicians to have private practices in the evening hours so they can earn additional income. However, private practice income can be several times greater than the government wage, which creates new problems for the public clinics: physicians can refer their affluent patients from the clinics to their private practices, then reduce their clinic hours to have more time for their private practices, causing public health services to deteriorate to the level that only the poor use them.

Background on centrally planned health systems

Under socialism, countries used the Soviet model for the financing and provision of health care. These systems were supplier-dominated; the availability of resources constrained production. The provision of services was organized into two levels: province and county. Disease prevention and public health care were the state's responsibility and were often organized as vertical programs. The state financed medical education. The state financed and owned urban health care facilities, which provided free services to patients. In rural areas, communes were responsible for financing and providing primary care.

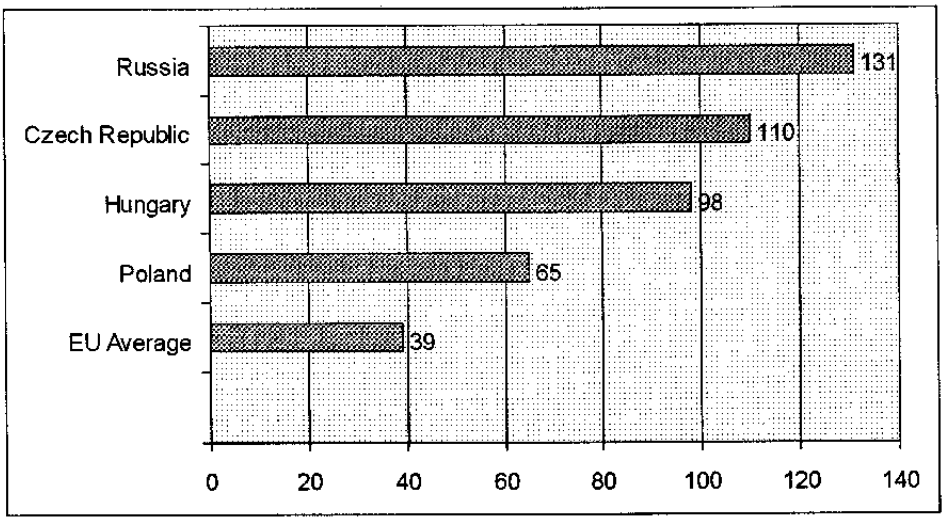
Under central planning, supply exceeded demand for hospital beds, physicians, nurses, and other health practitioners (see Figures 6A and 6B). As for state enterprises, when public facilities were privatized large-scale layoffs caused social unrest. In Eastern European transition economies, the central government transferred the problem by decentralizing public hospitals and clinics to the municipalities, even though most local governments lacked the funds to support the excess of hospital beds and redundant health practitioners.

Figure 6A Number of Physicians (per 100,000 inhabitants)



Source: WHO HFA database for CEE countries and EU, World Bank for China

Figure 6B Number of Hospital Beds (per 10,000 inhabitants)



Source: WHO HFA database for CEE countries and EU, World Bank for China

At present in these former socialist countries, many government facilities are underutilized. Wages for health practitioners are set low relative to other professionals, to keep costs low. Public hospitals operate inefficiently under a "soft" budget: the government sets performance

targets and makes up any deficits hospitals may have. As a result, public hospitals have little incentive to be efficient or to offer quality services. These inherited problems are further exacerbated by the new socioeconomic conditions of transition.

Major health policy problems confronting transition economies

For the socialist economies, the health care compensation system was structured very differently from that of market economies. For the former, economic and social security were given greater priority than current cash compensation. The compensation package for workers and collective farmers consisted of: low cash wages; deferred compensation, in terms of high pension and health care after retirement; housing, sickness, and disability pay; health care during working years; child allowances; and job security. Deferred compensations were not prefunded. The new, transition governments were faced with these social and moral obligations—and liabilities as they began to restructure their health care financing and provision.

Another health policy problem stems from the shift from direct government-financed health facilities to a social insurance system. How should the social insurance program pay the hospitals and clinics, and how much they should pay? Under the new insurance systems, governments have relied on the marketplace to set prices; However, if physicians and hospitals are able to use market power to set high monopolistic prices, social insurance plans can go bankrupt, as happened in the Czech Republic and Hungary.

Transforming socialism to capitalism entails opening the economy to foreign trade and investments, which has significantly impacted the health sector. Although the inflow of foreign capital, pharmaceuticals, and medical technology improves medical services, it also increases health care costs, because all major hospitals want to be equal in technical sophistication. Affluent households may be able to pay the higher prices associated with imported drugs and new medical technology but the poor cannot afford them. The government then faces a dilemma: either the government or social insurance funds these increases in health care cost, or the health care system must develop in two tiers.

Initial transformation of the health sector

For the health sector, the first impact of economic transition was felt when the government became unable to finance public health services. Most governments, following the advice of international organizations, promptly introduced three measures to generate new sources of revenue: they established user fees, introduced compulsory social insurance, and encouraged foreign investment in new medical facilities and technology. Most also legalized private medical practices. Unfortunately, the international organizations did not advise policymakers of the prerequisites for successful revenue-raising. These prerequisites include creating new organizations, developing management know-how, and setting up information systems and regulatory measures to set the rules for market competition. (A lack of competition allows public hospitals to continue to operate inefficiently under obsolete bureaucratic rules and retain its monopoly.)

All transition economies have introduced or expanded their compulsory social insurance as a new source of financing for health care. Table 17 shows five examples. The risks are usually pooled on a regional basis. However, because tax evasion is a serious problem, an effective tax collection system is needed; this can take years to establish. In the absence of effective collection, only about one-half to two-thirds of the expected social insurance contributions are collected, and the government must make up the shortfall. This was the case in the Czech Republic, Hungary, and China.

Table 17. Social Insurance Arrangements in Transition Economies

Countries	Year social insurance was established
Hungary	1990
Czech Republic	1992
Poland	1997*
Vietnam	1997*
China	2000**

Note: *Legislation was passed in 1997 but scheme became effective in 1999.
**China had established social insurance in 1953 and expanded coverage in 1997.

The level of health status in most transition economies has suffered from all these changes in health care financing and provision. This setback was partly due to a decline in preventive programs and a shortage of drugs and medical supplies, both of which resulted from inadequate public funding for health care. This problem was further exacerbated by use of the limited budget to first pay health practitioners. Meanwhile, the need for health care has increased; for example, the incidence of mental illness has risen due to unemployment and job insecurity. The experience of Russia is most illustrative. It suffered the greatest reversal in the level of health status, especially among middle-age males, and overall, the life expectancy of Russians dropped.

Generic models

In this section, transition economies are divided into two groups: middle- and low-income countries. The first group includes Eastern European countries, which are highly urbanized and have a higher per capita income. The second group includes China, Vietnam, and some Central Asian countries, which have predominantly rural populations. In transforming their economies, the low-income countries have experienced less economic contraction and unemployment; however, they have faced a greater demand for resources to address communicable diseases and malnutrition among the rural population, and chronic illnesses and aging in the urban areas.

Middle-income countries (e.g., Poland, Czech Republic, Hungary, and Baltic countries)

Financing. In these countries, a major problem is finding new ways to finance the existing government facilities and staff. Most countries have established compulsory social insurance to replace general-revenue financing. Tax evasion, however, has been a serious problem. The risks are usually pooled at the regional level or by industry or occupation. To reduce moral hazard, social insurance plans contract providers, and pay them on a fee-for-service basis. The insurance benefits package usually requires patients to pay co-insurance. The benefits cover a "reasonable" level of health services to all insured; those wishing services beyond this level may purchase private supplementary insurance, which pays for a "higher-quality" of services. This creates two tiers of medical care.

Macro-organization. To address oversupply, inefficiency, and bloated bureaucracy in hospitals, most of these middle-income countries have decentralized their hospitals to the regional and municipal levels. Local governments are now responsible for managing them, although these governments are in no better position to deal with the excess of staff and facilities. Nor do they have better managerial capabilities. Often, greater managerial autonomy is given to the hospitals and clinics. Governments often encourage private investments to modernize the hospitals. These hospitals then attract more patients and further private investment. Sometimes the government-owned hospital will form a joint venture with a private investor to offer a new service, such as on-site radiation therapy. Hospital staff are paid at a much higher rate when they give patient care in the private service. The growth of private hospitals has been rather slow in most transition economies. Some countries have privatized their general practitioner services, allowing them to rent the government's clinical facilities and receive a capitation payment for every patient registered.

Incentives. Transition economies face the greatest difficulty in structuring health care incentives. Two major problems arise: Who should set health service prices? And, how should the volume of services be controlled? Some countries let the physicians and hospitals set the prices, but this causes other problems. Some let the insurance plans set the prices, but this does not work either. (For example, insurance plans in the Czech Republic went bankrupt and the government had to bail them out.) When insurance plans try to set the fees under a fee-for-service system, the volume of services increases significantly. Countries are only now beginning to learn from the positive experience of some Western European countries that have used hospital global budgets and DRG payment systems.

Regulations. Most of these countries are incapable of effectively regulating private and social insurance; the qualifications of health providers; and the quality of services, pharmacies, and pharmaceuticals. Even if appropriate laws/regulations exist, they are not enforced, due to a lack of information and control. Furthermore, these countries' legal systems and courts are still at an early stage of development.

In summary, the middle-income transition economies are trying to reverse their formerly socialist welfare policies. However, the state had incurred obligations to the workers and their families. In lieu of paying high cash compensations, the state had promised high fringe and deferred benefits. Moreover, the health care system was to shift from supply-side to demand-side dominated. In effect, these countries were trying to implement 30 years of health care

reforms in a few years. It is not surprising that all encountered severe difficulties, caused by their lack of understanding of potential market failures and the need to link the public and private components of the system. Table 18 shows the major problems confronting transition economies, the reform measures introduced, and the consequences.

Table 18: A Summary of Common Health Sector Problems, Reform Measures, and Consequences in Middle-Income Transition Economies

Major Problem	Reform Measure	Consequences	Remedial Actions
Lack of general revenue to continue providing governmental funding for health care	Establish compulsory social insurance; patients can choose providers; money follows patients; insurance plans pay providers on fee-for-service basis.	Rapid expenditure inflation, some social insurance plans go bankrupt; government had to bail out several plans	Reduce payment rates to providers; change payment methods; but little control on quantity of services.
Demand by physicians and health care practitioners for higher income	Legalize private medical practices	Rapid price inflation and increase in quantity of services, causing deficits for social insurance plans. Health costs are shifted to households. Creates two-tiered medical care.	Insurance plans change from inflationary fee-for-service payment method to capitation or per case; providers increase quantity of services rendered; and charges to households to offset income loss
Oversupply of beds, physicians, and health practitioners	Decentralize government hospitals and clinics to local governments	Burden shifted to local governments. No significant reduction of beds and health practitioners in public sector. Inefficiency and bloated bureaucracy continue.	Necessary, but painful, rationalization programs, including retraining.
Demand for better-quality health care by the higher-income households	Allow for private insurance, encourage private hospital development, liberalize pharmaceutical imports	Rapid health expenditure inflation, health costs shifted to households. Creates two-tiered medical care.	Private insurance plans reduce payment to providers, shifting cost to households.

Low-income countries (e.g., Cambodia, China, and Vietnam)

The low-income countries faced similar problems in their urban areas, implemented similar reforms, and experienced similar consequences. In addition, these countries had problems financing and providing basic health care to their large rural populations. Again, the transformation of the economy caused the collapse of the funding base for rural health care. Without adequate funding, the government usually allows physicians to establish private practices; patients pay them on a fee-for-service basis. In government facilities, under-the-table payments become widespread. The funding base for the health stations, staffed by modestly trained health practitioners (e.g., village doctors), also collapsed. These practitioners established their own private practices and relied on selling medications and giving injections for their livelihood. Public health care, disease prevention, and the technical quality of primary health care all declined. Rural households had to pay directly for their hospital costs, resulting in the bankruptcy of many of these households.

Guideposts for macroeconomists

Transition economies are special cases. The tidal wave of a country's social and economic transformation overwhelms its health care system. Macroeconomists have to focus on the larger issues such as economic stability and growth, high unemployment rates, and corruption. Perhaps the most helpful and productive roles they can play are in educating the country's economic leaders and suggesting specific policies.

In transition economies, leaders of economic affairs often do not necessarily understand what the government's health care role should be. In the allocation of public resources, leaders must give priority to public health and disease prevention, and to subsidies for poor and low-income households, instead of to maintaining the jobs and protecting the incomes of government-employed health practitioners. Leaders often assume that the health sector can follow the same policies as other economic sectors, because they don't recognize the serious market failures that exist in health care markets. The government must play a significant role in ameliorating these market failures. For example, the fee-for-service payment system is highly inflationary and often encourages physicians to prescribe inappropriate tests, treatments, and medications.

Regarding suggesting specific policies, the government must have a coherent health policy that links all the components of the health care system, that is, the public and the private sector health care services. Otherwise, the transition economies will continue facing rapid health care costs inflation, increasing inequality in access to health care, and inefficiency. Moreover, tobacco taxes should be instituted, and the use of generic drugs should be strongly encouraged, following these practices in the United States.

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