CHAPTER

6 Stages of Health System Development and Health System Performance

A. Characterizing Different Stages of Health System Development

This chapter presents an analytical framework to help macroeconomists understand health systems and assess health policy for countries at different stages of development. To state the obvious, the same health system structure cannot be applied to all countries. Systems differ enormously among countries, owing 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?

Using cluster analysis, we can identify three distinct groups of countries. For ease of understanding, we distinguish the groups of countries by per capita GDP. Of course, the boundaries between these groups are artificial, because the distribution of countries by income is continuous. Thus, although we designate each grouping a "stage of health development," this term should not be misinterpreted as referring to discrete stages. The health system also evolves because as income and disease patterns change, the health system gradually changes as well. Table 7 presents examples of countries in each of the four stages of health development and summarizes the financing and service provision in each stage. A more detailed description for each stage follows the table.

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 the introduction of Western medicine—largely by missionaries and colonial governments. After World War II, colonial powers (the United Kingdom, France, Germany, the United States, and the USSR) introduced their systems of health care financing and organization into their colonies and spheres of influence.

Table 7. 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	Stage IV
Country classification	Low-income	Lower-middle-income	Upper-middle-income	High-income
Per capita GNI[1]	Below $826	$826–$3,255	$3,256–$10,065	Above $10,065
Financing sources				
General revenue and donor aid	50–60%	40–50%	20–40%	Countries with a high share of general revenue: National Health system (United Kingdom, New Zealand), Medisave and catastrophic insurance (Singapore)
Social insurance	Only for civil servants and formal sector employees	10–20%	30–60%	Direct provision: National health insurance (Canada & Australia). Indirect provision: Bismarkian (Germany, Japan)
Private insurance	Little	5–10%	15–40%	Managed care plus Medicare (United States), or supplementary in many countries
Self-pay	35–45%	20–40%	15–25%	15–25%

Source: Prepared by the authors.
[1]2004 gross national income, using the World Bank's Atlas method, which smoothes exchange rate fluctuations by using a three-year moving average, price-adjusted conversion factor.

However, these systems were used only in the application of Western medicine (for example, 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. Stages I and II: Low-Income and Lower-Middle-Income Countries

Low-income countries (per capita GDP below $826). The 59 countries in this group include, among others, Bangladesh, Haiti, India, Kenya, Mali, Nigeria, Peru, Senegal, Tanzania, Vietnam, and the Republic of Yemen.

Lower-middle-income countries ($826–$3,255 per capita GDP). The 54 countries in this group include, among others, China, Ecuador, Egypt, Indonesia, Morocco, Peru, the Philippines, and Tunisia.

In the early stage of health system 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 a 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.

1. General Description

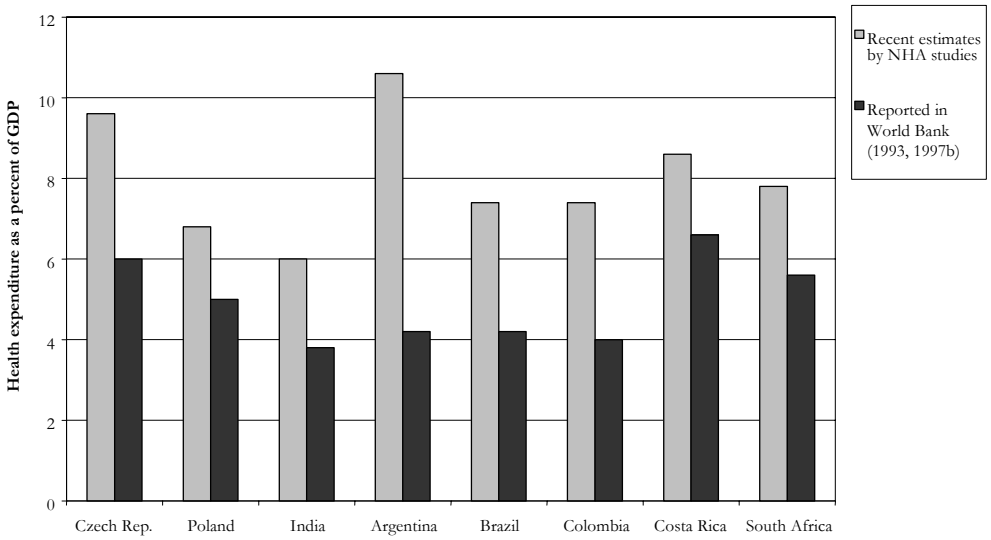
Disease patterns

- For low-income countries, communicable and infectious diseases are prevalent and are the major cause of death. A large portion of the population has no access to clean water and latrines. A high percentage of infants and children suffer 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, the use of resources, and health outcomes

- In low-income countries and lower-middle-income countries, the government finances a large portion of national health expenditure, but a significant share—often close to half—is paid directly by patients. However, government statistics on national health expenditure usually *understate* the amount spent, because they omit or underestimate private spending. Figure 7 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 a 1997 purchasing power parity basis) to public health and prevention. Two-thirds or more of the public health budget is spent on hospital services. The principal medical center, which is usually located in the capital city, receives half the total hospital budget. Although most of the population lives in rural areas, most of the public health budget is spent on services used by the urban population.

Figure 7. Selected Countries: Comparison of Actual National Health Expenditure and Government Statistics on Health Expenditure
(As percent of GDP)



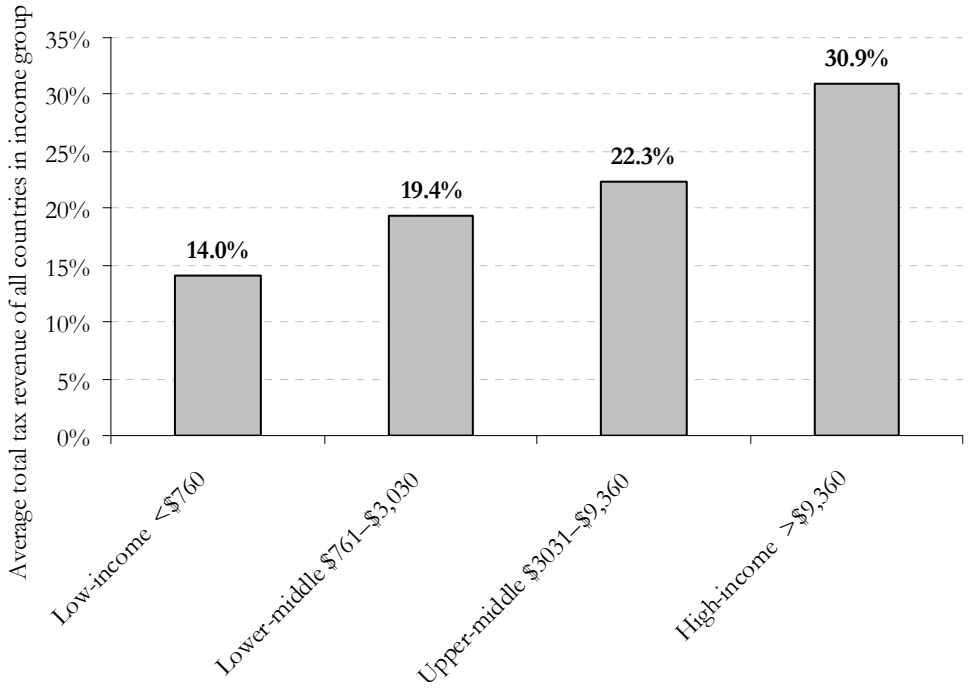
Source: Berman and others (1999).

- 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 reflect the level of health spending because Sri Lanka spends less of its GDP on health than India. China also spends less of its GDP on health than India, yet its rate of 42 per 1,000 live births is substantially lower than that of India.

Government capacity and performance

- In all Stage I countries, central government revenue (as a percent of GDP) is relatively low—typically below 15 percent. These governments, therefore, have very limited resources to fund health care (see Figure 8).
- Health issues are usually given a low priority by Stage I countries, resulting in a lack of national strategy for health development. For example, governments usually divorce their policies with respect to medical education and the pharmaceutical industry from their policies for the health sector. Health spending by ministries of education is often as large as that by 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 a population's health status.

Figure 8. Government Revenue as a Fraction of GDP, by Average per Capita Income Level



Source: IMF internal data.

- Public health services are inefficient: excess capacity is often found at lower-level facilities. Using quantitative and econometric models, studies of several low-income countries have found the inefficiency to be between one-third and one-half of spending (Osei and others, 2005; and Zere and others, 2006).

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 primarily on paper. Those that do exist offer a poor quality of service, inadequate drug supplies, and inconvenient clinical hours. Many 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 but they 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 and the rest at their private practice. In public hospitals, physicians self-refer the more affluent patients to their private clinics.

2. A Three-Tier System in Terms of Access

This section describes the common characteristics of health care for countries in the first stage of development in order to give policymakers and macroeconomists 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 these services delivered?

Most of these countries attach insufficient priority to the allocation of budgetary resources to public health, disease prevention, and maternal and child health services. 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, tuberculosis, and HIV/AIDS. Each vertical program creates its own bureaucracy, clinics, and supply system. These programs often overlap, competing for a limited number of trained health practitioners and equipment. The sustainability of these programs is therefore in jeopardy once the donors withdraw 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 effectively segmented across three tiers of the population, depending largely on a patient's ability to pay for services.

The *first tier* consists of affluent households who pay directly and demand services from better-qualified, private sector physicians.[9] These affluent households also demand secondary in-patient hospital services from private hospitals (both for-profit and not-for-profit). Because 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 facility 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 the private sector offers greater availability of drugs and supplies, shorter waiting times, more choice of physicians, and better personal attention and other amenities.

The *second tier* consists of middle-income households, which are covered by the government's essentially limited pay-as-you-go social insurance system. This insurance system typically covers only civil servants and workers employed by 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 (for example, unfriendly health practitioners). Some large enterprises have their own hospitals and clinics, which are built to ensure cost control and the 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 or in urban slums. 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, such households 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 8 summarizes this three-tier system.

[9]Most private sector physicians are employed by public sector hospitals, but have a private practice on the side, although a few high-reputation physicians may have only private practices.

Table 8. 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 the private sector
	Government	Tertiary services, public health
Middle-income households, civil servants and formal sector employees, others	Social insurance	Disease prevention and drugs, primary care, and secondary services from the private sector
	Self-pay	Disease prevention and drugs, primary care, and secondary services from the 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

3. Generic Models of Health Care Financing and Organization

Three generic models of health care financing and organization can be observed in Stage I and II countries: government-oriented, market-oriented, and central-planning. A three-tier health care system is prevalent in countries that follow the government-oriented and market-oriented models. A two-tier system typically operates in countries that follow the central-planning model (reflecting the absence of a middle class in communist societies).

a. Government-oriented model (for example, Bangladesh, India, Kenya, Nigeria, and Sri Lanka)

Financing. Under this 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 either resort to self-care or make use of indigenous providers on an out-of-pocket basis. As a result, the supply of public health services usually far exceeds demand at the subdistrict level. In contrast, the hospital services provided at the district and provincial levels are typically overcrowded, with demand far exceeding 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 a private practice leads to high absenteeism and other abuses.

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

b. Market-oriented model (for example, Indonesia, Morocco, and 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 health 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 companies usually charge high premiums, which are affordable only by the affluent. Equally, only the affluent and privately insured populations can afford private hospitals.

Macro-organization. The state plays the major role in organizing, funding, and operating a network of health facilities at three levels, based on "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 service their insurance coverage. This form of integrating the financing with the provision of services is akin to staff model health maintenance organizations (HMOs) in the United States (where the HMO employs its own physicians). In low-income countries, they are called prepaid medical plans. The private insurance plans employ their own physicians and operate their own clinics to prevent fraud and abuse. There is little competition between private and public hospitals because they serve different client groups. In essence, the private hospitals serve a niche market.

Incentives. As under the government-oriented model, 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"; that is, they charge patients an additional amount beyond what the private insurance plan pays.

Regulation. 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.

c. Central-planning model (for example, China before 1985, Cuba, and 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 to 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 deliver 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 delivered by a three-level network, with the government subsidizing and managing only the two upper levels of services—at district health centers and hospitals. The local communities fund and manage the lowest level, usually at 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 ensures the availability of essential drugs for most people. Private practice is forbidden, except for retired physicians. Private hospitals, pharmacies, and insurance plans are also prohibited.

For most of these countries, demand exceeds supply for hospital services. In contrast, 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 practice are forbidden, political power and personal connections are often relied on to bypass queues.

4. Differences between Low-Income Countries and Lower-Middle-Income Countries

The major differences between low-income countries and lower-middle-income countries relate to (1) the size of the affluent population, (2) the share of the population employed in the formal sector, and (3) the ability and capacity of the countries to manage social insurance efficiently. These differences influence public resource allocation and the effectiveness of social insurance.

As development occurs, the growing influence and size of the 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 (for example, 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 because of the country's surplus of specialists.

The global market for new medical technologies has placed a particular strain on the treasuries of both groups of countries, resulting in reduced public funding for the poor and for public health services, and implying a decrease in the quality of services. The private market for primary and secondary services expands rapidly to meet the demand of an increasing number of affluent and middle-income households. This thus leads 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 affluent 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.

With development, the growing number of formal sector employees offers an opportunity for a country to expand the scope of its social insurance system. Most Latin American countries established their embryonic Bismarkian social health insurance systems at this stage. At the same time, with an increasing knowledge base and managerial expertise, the social insurance plans of low- and lower-middle-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 establishing a separate institution to finance and deliver health services, the social insurance plan also creates a new political interest group.

5. Comparison of Performance

Table 9 shows the outcomes by model for selected low- and lower-middle-income countries. In terms of cost-effectiveness, the central-planning model

Table 9. Selected Low- and Lower-Middle-Income Countries: Health Expenditure and Results by Model

	Per Capita GNI (2004 World Bank Atlas method)	Per Capita GDP (2004 PPP $US)	Percent of GDP Spent on Health		Health Status Indicators (2004)			
			Total (2003)	Government (2003)	Life expectancy	Infant mortality rate (per 1,000)	Under-age-five mortality rate (per 1,000)	Risk protection
Government-oriented model								
Bangladesh	440	1,875	3.4	1.1	63.5	56.4	77.0	Medium
India	620	3,115	4.8	1.2	63.5	61.6	85.2	Medium
Kenya	460	1,063	4.3	1.7	48.4	78.5	119.5	Low
Nigeria	390	1,113	5.0	1.3	43.7	101.4	196.6	Low
Sri Lanka	1,010	4,173	3.5	1.6	74.4	12.0	14.1	High
Market-oriented model								
Indonesia	1,140	3,583	3.1	1.1	67.4	29.6	38.4	Low
Philippines	1,170	4,558	3.2	1.4	70.8	26.0	34.4	Medium
Central-planning model								
China	1,290	5,495	5.6	2.0	71.4	26.0	31.0	Low
Vietnam	550	2,704	5.4	1.5	70.3	17.4	23.2	Medium

Source: World Bank (2006).

Table 10. Low- and Lower-Middle Income Countries: Comparison of Health Care System Performance

	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 and results	Health	Risk protection
Government-oriented model	L	F: General-revenue financing O: Minimum intersectoral coordination Government-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: Government-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 Government-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: *Government funded free hospital services.* Social insurance for some formal sector workers ↓ Protection for large hospital expenditures but varies according to 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: Government 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: Government-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

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

clearly outperforms the other two 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 10 (see p. 58) shows how well the three models performed in attaining health objectives.

6. 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 should support the policy advice offered by these institutions. A particularly useful source is the work of the Disease Control Priorities Project, which has drawn on the expertise of a team of researchers from the World Bank, academia, and the U.S. National Institutes of Health. Their recent report (Jamison and others, 2006) examines the key intrasectoral policy choices in the health sector of low-income countries, the choice of interventions to be delivered to the target population based on cost-effectiveness criteria, and the relevance of policy choices in other sectors.[10] Macroeconomists, however, should consider the following broad guidelines:

- *In assessing a health care system's performance*, macroeconomists can compare a 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 11 gives a benchmark for Sri Lanka—which we characterize as a "best"-performing country (see also Box 1), and Table 12 gives a benchmark for Belize, which is more of a "median"-performing country among these two stages of development.
- *Broad recommendations*: A country should take the following important policy steps in order not to repeat other countries' mistakes:
  - Formulate a rational and coherent overall health sector policy, so that the allocation of resources can be rationalized and health-related programs in various ministries coordinated;
  - Establish a cabinet-level committee, chaired by the deputy prime minister, to review and monitor health policy implementation;
  - Formulate a list of essential drugs, so bulk purchases can be made through an international bidding process, and so that an organized, nationwide distribution system can be established;

[10]See WHO (2006) for a discussion of the challenges that arise as countries seek to formulate coherent policy frameworks following the CMH initiative.

Table 11. Input and Output Indicators of a Best-Performing Low-Income Country: Sri Lanka

Input Indicators	
Health expenditure per capita (2003, $US)	31
Health expenditure, total (2003, as percent of GDP)	3.5
Hospital beds (1999, per 1,000 people)	2.2
Physicians (2004, per 1,000 people)	0.5
Output Indicators	
Aggregate	
Level of health status	
Infant mortality rate (2004, per 1,000 live births)	12
Life expectancy (2004)	74.4
Risk protection	High
Equity in:	
Net benefits	High
Access to health care	High
Risk protection	Medium/High
Efficiency in:	
Health care	High
Risk protection	High

Source: World Bank, World Development Indicators (2006).

Box 1. Sri Lanka: A Country with Exceptional Performance

Among the Stage I countries, Sri Lanka stands out for its health achievements 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, whereas 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 purchasing power parity 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, they still work their full shift for the public facilities and perform their duties faithfully. They do so voluntarily, without close oversight. 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.

Table 12. Input and Output Indicators of a Median-Performing Low-Income Country: Belize

Input Indicators	
Health expenditure per capita ($US 1997 PPP basis)	158.0
Health expenditure, total (as percent of GDP)	4.7
Hospital beds (per 1,000 people)	2.7
Physicians (per 1,000 people)	0.6
Output Indicators	
Aggregate	
Level of health status	
Infant mortality rate (per 1,000 live births)	44.6
Life expectancy	73.2
Risk protection	Medium
Equity in:	
Net benefits	Medium
Access to health care	Low
Risk protection	Medium
Efficiency in:	
Health care	Medium
Risk protection	Low

Source: World Bank (1999).
Note: PPP = purchasing power parity.

- Avoid a fee-for-service payment system for social and private insurance because this type of payment system increases health care cost inflationary pressures;
- Be cautious about accepting donor assistance for tertiary hospitals, because the operations and maintenance costs at this level can absorb a significant portion of a country's health budget, and a careful assessment of the costs and benefits of accepting such assistance should be made; and
- Avoid situations in which a ministry of health and/or social insurance plan funds and manages its own facilities because ministries can easily become "captured" by ministry-employed health practitioners, resulting in their interests dominating those of patients.

- *Some elementary policy strategies*—certain policy strategies will improve health care system performance, including the following:
  - Introduce or increase excise taxes on tobacco;

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

C. Stage III: Upper-Middle-Income Countries[11]

1. General Description

For Stage III countries, health care financing and provision systems are more distinct. As the size of affluent and middle-class populations increases with economic growth, access to different parts of the health system 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 comprise 10 to 20 percent of the total population. These privately insured individuals 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.

2. Generic Models

a. National health service model (for example, 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 (for example, 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, health care becomes a two-tier system: private sector services and public health services.

[11]Per capita GDP incomes of $5,001–$12,000, on a 1997 PPP basis.

Macro-organization. The government operates the public health services as a three-level system—hospitals, health centers, and primary care clinics. However, because these countries have become more urbanized, most people at the district level live close to a city, and thus bypass the district-level facilities and go directly 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-class and affluent 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 substantial pressure on the health budget.

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

b. Social insurance model (for example, 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. 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. Social health insurance plans establish 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 quality and availability of services are much better than for public health services. These countries therefore have a distinct three-tier system: private, social health 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 employed by social insurance plans or the public health service. Labor disputes and strikes are frequent. Patients have little choice regarding where they can obtain

services. In effect, public and social insurance hospitals can operate much like monopolies because 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 programs for accrediting health practitioners or for monitoring service quality.

c. Market-oriented model (for example, Thailand)

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

Macro-organization. These countries continue to fund and operate a network of public health facilities that provide low-cost services (for example, Thailand), but the supply of such services is far less than demand. De facto, such facilities serve as insurance for the uninsured. In contrast, the majority of health services are delivered by private hospitals and clinics, which compete actively with both the public sector and 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 and increase the quantity of services, and can—and often do—charge patients additional amounts above the fees received from the insurance funds (that is, balance billing). Consequently, these countries 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 these pressures for health expenditure inflation, some countries (for example, Thailand) have moved to payment 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.

Table 13. Upper-Middle-Income Countries: Health Care Expenditure and Results by Model

	Per Capita GNI (2004 World Bank Atlas method)	Per Capita GDP (2004 PPP $US)	Percent of GDP Spent on Health (2003)		Health Status Indicators (2004)			
			Total	Govern-ment	Life expectancy	Infant mortality rate (per 1,000)	Under-age-five mortality rate (per 1,000)	Risk protection
Public health service model								
Malaysia	4,650	9,760	3.8	2.2	73.5	10.2	12.4	High
Turkey	3,750	7,710	7.6	5.4	69.9	28.3	32.0	Medium
Social insurance model								
Colombia*	2,000	7,121	7.6	6.4	72.6	17.5	20.5	Medium
Argentina	3,720	12,723	8.9	4.3	74.6	16.2	18.2	Medium
Costa Rica	4,670	9,805	7.3	5.8	78.7	11.3	12.6	High
Market-oriented model								
Thailand*	2,540	8,179	3.3	2.0	70.5	18.2	21.2	High

Source: World Bank (2006).
Notes: GNI = gross national income; PPP = purchasing power parity.
*The World Bank classifies these as lower-middle-income.

Table 14. Upper 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			
	Rating	Strategy and results	Rating	Strategy and results	Rating	Strategy and results	Health	Risk protection
Public health service model (Malaysia)	M	F: General revenue provides adequate funds O: Government-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: Government-funded free public health services Social insurance for formal sector workers Private insurance for the affluent ↓ 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 poor depends 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.

3. Comparison of Performance

Table 13 (see p. 66) compares the performance under the three models The public health service model (for example, 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 has often proven to be very politicized in that region. Consequently, social insurance–managed health facilities appear very inefficient and at times a source of corruption.[12]

Table 14 (see p. 67) compares the performance of the three models and analyzes how they affect the level and distribution of health status and risk protection, as well as the cost-effectiveness of their systems. As for equal access to health care, the upper-middle-income countries have the economic capacity to provide equal access only to "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 and hospital choice.

4. Guideposts for Macroeconomists

- *Useful data*—in assessing health system performance, three types of data should be sought: the National Health Account (NHA), compiled according to international standards; the latest statistics on infant mortality rate, under-age-five mortality rate, and life expectancy; and per capita public health spending for the poor. The NHA should reveal what share of the public health budget is allocated to public health, disease prevention, and maternal and child health. This share should be at least 10 percent.
- *In assessing performance*—macroeconomists should make a quick assessment of the health care system's performance by comparing a 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 15 and 16 provide benchmarks for Stage III countries (covering two best-performing countries, Malaysia and Costa Rica, and one median-performing country, Colombia.)

[12]As reflected in the case of the United States, such inefficiencies are not limited to social insurance models.

Table 15. Input and Output Indicators of Two Best-Performing Upper-Middle-Income Countries

Part A. Malaysia	
Input Indicators	
Health expenditure per capita (2003, $US, PPP basis)	163
Health expenditure, total (2003, as percent of GDP)	3.8
Hospital beds (2001, per 1,000 people)	1.9
Physicians (2000, per 1,000 people)	0.7
Output Indicators	
Aggregate	
Level of health status	
Infant mortality rate (2004, per 1,000 live births)	10.2
Life expectancy (2004)	73.5
Risk protection	High
Equity in:	
Net benefits	Medium
Access to health care	High
Risk protection	Medium/High
Efficiency in:	
Health care	Medium/High
Risk protection	Medium/High
Part B. Costa Rica	
Input Indicators	
Health expenditure per capita (2003, $US, PPP basis)	305
Health expenditure, total (2003, as percent of GDP)	7.3
Hospital beds (2003, per 1,000 people)	1.4
Physicians (2000, per 1,000 people)	1.3
Output Indicators	
Aggregate	
Level of health status	
Infant mortality rate (2004, per 1,000 live births)	11.3
Life expectancy (2004)	78.7
Risk protection	High
Equity in:	
Net benefits	High
Access to health care	Medium
Risk protection	High
Efficiency in:	
Health care	Medium
Risk protection	High

Source: World Bank (1999).
Note: PPP = purchasing power parity.

Table 16. Input and Output Indicators of a Median-Performing Upper- Middle-Income Country: Colombia

Input Indicators	
Health expenditure per capita (1997, $US, PPP basis)	359.6
Health expenditure, total (as percent of GDP)	6.9
Hospital beds (per 1,000 people)	1.3
Physicians (per 1,000 people)	1.0
Output Indicators	
Aggregate	
Level of health status	
Infant mortality rate (1997, per 1,000 live births)	24
Life expectancy (1997)	70
Risk protection	Medium
Equity in	
Net benefits	Medium
Access to health care	Medium
Risk protection	Medium
Efficiency in	
Health care	Medium
Risk protection	Medium

Source: World Bank (1999).
Note: PPP = purchasing power parity.

- *In reviewing policy programs*, it is important to determine whether public resources are misallocated. A poor level of health status, especially a high infant mortality rate, 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 rural areas and urban slums.
- *If poor health status is due to inefficiencies* in the public health and social-insurance-operated facilities, poor management (or corruption) can be remedied by separating the financing function of the social insurance fund from the health service provision function. Using the principles of competition to improve efficiency and quality of services, patients should be given a choice as to where to seek services—from the public or private sector—and the payment for the services should follow the patient. In other words, the public or social-insurance-operated facilities should not automatically receive a budget; they should have to compete for patients.
- *Targeting public funds*—for the countries operating under either the social insurance or the free-market-oriented models, most of the public budget should be allocated to subsidize poor and low-income households.

D. Stage IV: Advanced Economies[13]

1. General Description

All advanced economies try to contain health expenditure inflation while achieving their health care objectives. They try different approaches in financing, organization, payment systems, and regulation 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 of many advanced economies. Health expenditure is consuming an increasing share of national income. Most countries are struggling to establish effective budget constraints on the health sector and to limit the government's burden in financing 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. However, constraining resources has meant the introduction of mechanisms for rationing health and medical services. Countries have used different such mechanisms, including price, limited choice of providers, and increased waiting time. It has also led to efforts to influence the professional culture of physicians, in effect asking them to practice more 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 (see Cutler, 2004; and Porter and Teisberg, 2006). 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.

[13]Advanced economies are defined as those with a per capita GDP of $12,001 or more on a 1997 PPP basis.

2. Generic Models

a. National health service model (for example, the United Kingdom)

The principal health care objective of the United Kingdom is to provide universal and equal access to health care. To achieve this, the government funds its health care system primarily out of general tax revenues. The health budget is apportioned to each region according to a formula that takes into account population 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 allowing them to bypass queues. A 1989 reform introduced an internal market to improve efficiency and the quality of health care. This reform is now being refined to make the internal market work more effectively (see Wanless, 2002, 2004.)

b. National health insurance model (for example, Canada)

Canada also gives priority to universal and equal access to health care. This is accomplished through a national health insurance scheme that 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, and 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.

c. Social insurance model (for example, Germany)

Germany's health care system can be 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 copayment 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 health expenditure inflation. Many experts expect Germany to revert to its previous strategy of global budgeting for this purpose.

d. Voluntary health insurance model (for example, 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 (an approach designed and advocated by Alain Enthoven (1994)). Managed competition requires complex and sophisticated organizations to manage medical practices, and the administrative costs can be substantial. Furthermore, it is not clear that managed competition can contain health expenditure inflation in the long run, despite its success in the 1990s in reducing the oversupply of hospital beds in the United States.

e. Individual savings accounts with catastrophic insurance model (for example, Medisave in Singapore)

Singapore emphasizes self-reliance and individual responsibility, which is reflected in the structure of its health system. The government mandates that every worker save 6 to 8 percent of his or her 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 has also 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 sought to introduce market competition—competition between public and private hospitals. This did not moderate the expenditure inflation rate, and the government reverted to planning and regulation to achieve this objective (Singapore Ministerial Committee on Health Policy, 1993).

3. Comparison of Performance

Table 17 presents a statistical comparison of the performance of the five models. The data clearly indicate the poor performance of the voluntary insurance model. Table 18 compares the structural elements and the performance of the five models. Three main conclusions emerge from this comparative analysis: (1) to ensure equity, a 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 constraint for the health sector. Competition and demand-side measures (such as direct patient payments) have proven to be ineffective in controlling health expenditure inflation.

4. Guideposts for Macroeconomists

All advanced economies except the United States ensure that their citizens have 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 NHA, 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

Table 17. High-Income Countries: Health Expenditure and Results by Model

	Per Capita GNI (2004 World Bank Atlas method)	Per Capita GDP (2004 PPP $US)	Percent of GDP Spent on Health (2003)		Health Status Indicators (2004)			
			Total	Govern-ment	Life expectancy	Infant mortality rate (per 1,000)	Under-age-five mortality rate (per 1,000)	Risk protection
National health service model (United Kingdom)	33,940	30,843	8.0	6.9	78.5	5.3	5.8	Universal
National health insurance model (Canada)	28,390	31,129	9.9	6.9	79.8	5.2	5.7	Universal
Social insurance model (Germany)	30,120	28,147	11.1	8.7	78.5	4.2	4.7	Universal
Voluntary health insurance model (United States)	41,400	39,618	15.2	6.8	77.4	6.7	7.6	15% of population uninsured
Medisave with catastrophic insurance model (Singapore)	24,220	27,273	4.5	1.6	79.3	2.6	3.3	Universal

Source: World Bank (2006).

Table 18. Comparison of Performance: Advanced Economies

	Equity in			
	Level of health status		Equal access to services	
Model	Rating	Strategy and results	Rating	Strategy and results
National Health Service (United Kingdom)	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
Medisave and 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
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 rationing through conservative medical practices ⇓ Equal access to equal quality of services
Social insurance (SI) (Germany)	H	F: Compulsory SI financed by usage-based contribution ⇓ Modest difference in level of health status	H/M	F: Implicit rationing through conservative medical practices I: Two-tiered pricing ⇓ Universal access, but to to two tiers of quality
Voluntary health insurance and managed care (United States)	M	F: Employment-based insurance for working population General revenue financing for poor and elderly ⇓ Unequal level of health status between the insured and uninsured and by income classes	L	F: Rationing by price and by choice of providers ⇓ Uninsured lack adequate access Multiple tiers of quality

Note: L, M, and H denote low, medium, and high, respectively. F and I denote financing and incentives, respectively.

Degree of risk protection	Cost-Effective in Producing Better Health and Risk Protection	Expenditure Inflation Control
High: universal coverage by National Health Service	Low spending, good health outcome, and universal coverage	Competition for central government budget ⇓ Very effective in managing inflation
High: universal insurance for catastrophic expenses	Low spending, good health outcomes, and basic universal protection	Two-sector competition ⇓ Modestly effective in managing inflation
High: universal insurance coverage	Medium spending, good health outcome, and universal coverage	Federal government makes provincial government pay MC ⇓ Provincial government negotiates global budget with hospitals and with medical associations ⇓ Effective in managing inflation
High: universal insurance coverage	Medium spending, good health outcome, and universal coverage	Direct link and transparent in the cost and benefits of insurance coverage ⇓ Direct bilateral negotiations between payers and payees (providers); single payment pipeline ⇓ Effective in managing inflation
Modest: 17% of population uninsured, but they have some protection by uncompensated care	High spending (partly due to high transaction costs), below average in health outcomes. 17% of 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

Note: MC = medical costs.

Table 19. Input and Output Indicators of "Best"-Performing Country among Advanced Economies: Canada

Input Indicators	
Health expenditure per capita (2003, $US, PPP basis)	2,669
Health expenditure, total (2003, as percent of GDP)	9.9
Hospital beds (2002, per 1,000 people)	3.7
Physicians (2003, per 1,000 people)	2.1
Output Indicators	
Aggregate	
Level of health status	
Infant mortality rate (per 1,000 live births)	5.2
Life expectancy	79.8
Risk protection	High
Equity in:	
Net benefits	High
Access to health care	High
Risk protection	High
Efficiency in:	
Health care	Medium
Risk protection	High

Source: World Bank (2006).
Note: PPP = purchasing power parity.

the levels of health status and risk protection, and the equity and efficiency of both. Table 19 gives the benchmarks for a Stage IV country—Canada. *In reviewing policy programs*, it is useful to compare the access to and use of health services by the bottom- and upper-quartile income groups, as well as 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 the 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 as to whether the government has a rational policy with respect to the training of medical practitioners that is compatible with the country's health objectives.

E. Transition Economies

This group of countries does not fit into the stages of development analytical framework. These former socialist countries were founded on different ideologies. Their social, economic, and political systems were structured very differently, with the state directing and controlling most social and economic activities. The radical changes since the early 1990s 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 have varied among these economies, common themes and experiences have emerged.

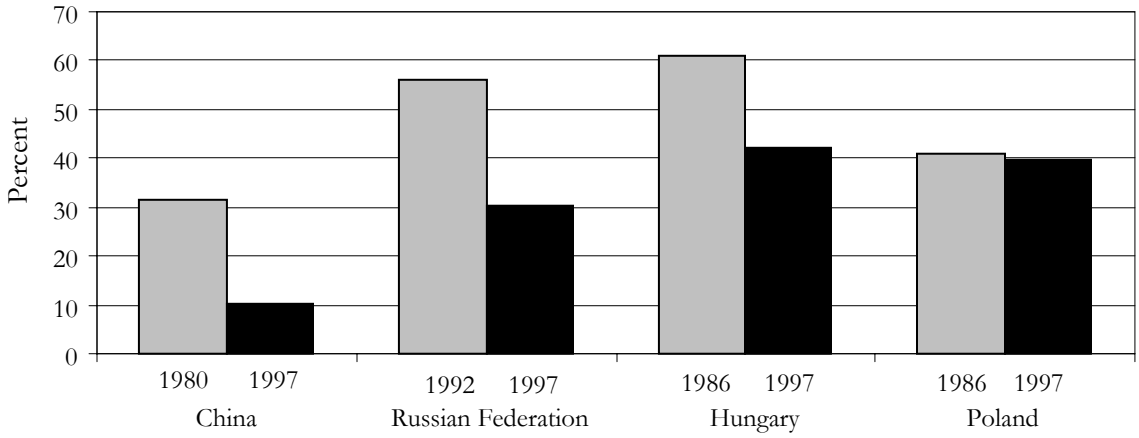
1. Impact of Economic Transition on the Health Sector

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 dropped sharply for all transition economies during the several years of initial transformation. The Chinese experience, after 1980, is most illustrative (see Figure 9). From 1980, when China began its transition, to 1996, government revenue dropped from 33 percent of GDP to 14 percent. 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, governments have often had to reduce funding in real terms for public health services.

Almost all transition economies have experienced widening income disparities, which have significantly affected 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 must supply the same.

Figure 9. Selected Transition Countries: Government Revenue
(Percent of GDP)



Source: IMF internal data.

Widening income disparities have another impact on the health sectors of transition economies. Health practitioners can quickly become dissatisfied that their incomes are no longer in the country's highest 10 percent. Many then turn to corrupt practices, such as asking for 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 that they can earn additional income. However, private practice income can be several times greater than the government wage, which creates new problems for public clinics. Physicians refer their affluent patients from the clinics to their private practices and then reduce their public clinic hours in order to have more time for their private practices. This causes public health services to deteriorate such that only the poor use them.

2. 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: provincial and county. Disease prevention and public health care were the state's responsibility and were often organized as vertical programs. 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. The state also financed medical education.

Under central planning, supply exceeded demand for hospital beds, physicians, nurses, and other health practitioners (see Figures 10 and 11). As for state enterprises, when public facilities were privatized, large-scale layoffs caused social unrest. In the 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 hospital beds and redundant health practitioners.

At present in these former socialist countries, many government facilities are underutilized. Wages for health practitioners are set low relative to other professionals, in order 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.

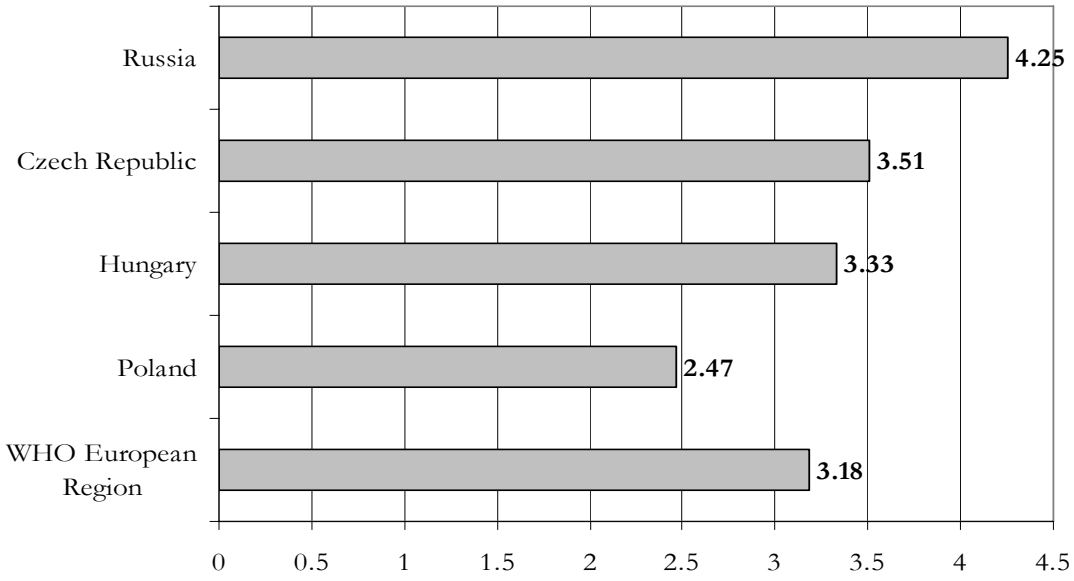
3. Major Health Policy Problems Confronting Transition Economies

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 pensions and guaranteed health care after retirement; housing, sickness, and disability pay; health care during working years; child allowances; and job security. Deferred compensation obligations were not prefunded. Governments during transition were thus faced with these large social and moral obligations—and liabilities—as they sought to restructure these systems for health care financing and provision.

Another health policy problem arose from the shift from direct government-financed health facilities to social insurance systems. How should the social insurance program pay the hospitals and clinics, and how much should they 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.

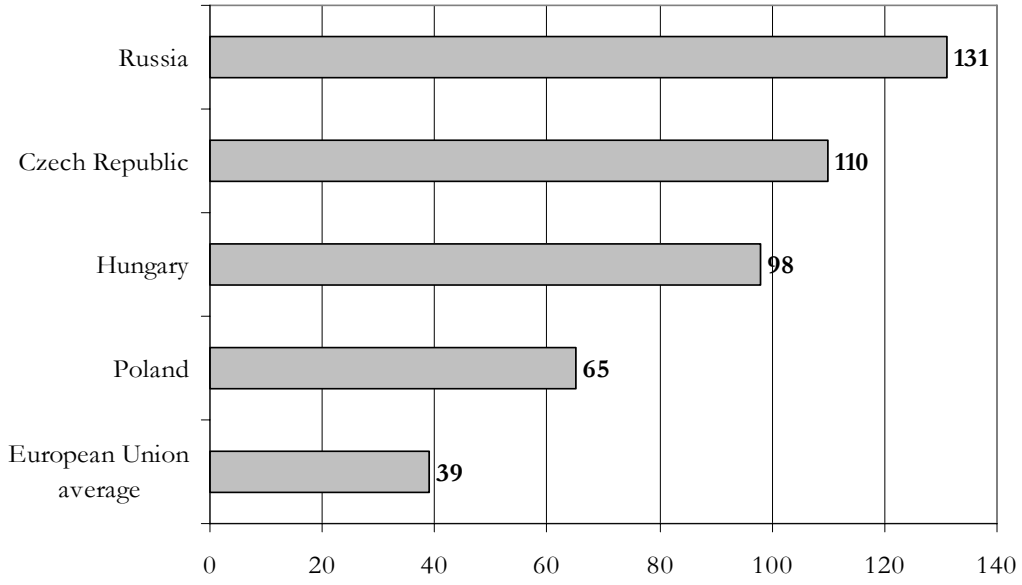
Moving from socialism to capitalism has entailed the opening up of the economy to foreign trade and investments, which has also significantly affected the health sector. Although the inflow of foreign capital, pharmaceuticals, and medical technology has improved medical services, it

Figure 10. Selected Transition Countries: Number of Physicians
(Per 1,000 inhabitants)



Source: World Health Organization, *World Health Report*, 2006.

Figure 11. Selected Transition Countries: Number of Hospital Beds
(Per 10,000 inhabitants)



Source: World Health Organization, HFA database for Central European economics countries and European Union.

has also increased 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 technologies, but the poor cannot afford them. The government then faces a dilemma: either the government or the social insurance system finances these increases in health care costs, or the health care system must de facto develop with two tiers of access.

4. Initial Transformation of the Health Sector

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

All transition economies have introduced or expanded their compulsory social insurance systems as a new source of financing for health care (see Table 20). Risks are usually pooled on a regional basis. However, because tax evasion is a serious problem, an effective tax collection system is needed, which 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 has been the case in the Czech Republic, Hungary, and China.

The level of health status in most transition economies has suffered from all these changes in health care financing and provision. These setbacks were 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. These problems were further exacerbated by the use of the limited budget to pay health practitioners first. Meanwhile, the need for health care has increased. For example, the incidence of mental illness has risen owing to unemployment and job insecurity. The experience of Russia is most illustrative. It has suffered an unprecedented reversal in the level of health status, especially among middle-aged males, and overall, the life expectancy of Russians has dropped.

Table 20. Selected Transition Countries: Social Insurance Arrangements

Countries	Year Social Insurance Was Established
Hungary	1990
Czech Republic	1992
Poland	1997*
Vietnam	1997*
China	2000**

Source: Evaluation conclusions of the authors.
Note: *Legislation was passed in 1997 but scheme became effective in 1999.
**China established social insurance in 1953 and expanded coverage in 1997.

5. Generic Models

In this section, transition economies are divided into two groups: middle-, and low- and lower-middle income countries. The first group includes Eastern European countries, which are highly urbanized and have a relatively high 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- and lower-middle-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 rural households, and chronic illnesses and aging in urban areas.

a. Middle-income transition countries (for example, Poland, the Czech Republic, Hungary, and the Baltic countries)

Financing. In these countries, a major problem has been finding new ways to finance 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. 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 health 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 still not in a better position to deal with excess staff and facilities. Nor do they have better managerial capabilities. Often, greater managerial autonomy is given to the hospitals and clinics. Governments frequently encourage private investments to modernize the hospitals. These hospitals then attract more patients and additional 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 sector. 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 have let physicians and hospitals set prices, but this has caused other problems. Some have let insurance plans set prices, but this has also proven problematic. For example, insurance plans in the Czech Republic went bankrupt and the government had to bail them out. When insurance plans have tried to set fees under a fee-for-service system, the volume of services has significantly increased. Only now are countries beginning to learn from the positive experience of some Western European countries that have used hospital global budgets and diagnostic related group (DRG) payment systems.

Regulations. Most of these countries are still weak in their capacity to effectively regulate private and social insurance, ensure the qualifications of health providers, and provide minimal assurances as to the quality of services, pharmacies, and pharmaceuticals. Even if appropriate laws and regulations do exist, they are not enforced, owing to a lack of information and control. Furthermore, the legal systems and courts of these countries 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 excessively costly obligations to 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 being shifted from being supply-side to demand-side dominated. In effect, these countries have had to try to implement 30 years of health care reform in a few years. It is thus not surprising that all have encountered severe difficulties, caused by their lack of understanding of potential market failures and the difficulty of linking the

Table 21. Middle-Income Transition Economies: A Summary of Common Health Sector Problems, Reform Measures, and Consequences

Major Problem	Reform Measure	Consequences	Remedial Actions
Lack of general revenues 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. Governments have had to bail out several plans.	Reduce payment rates to providers, change payment methods, but little control over 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 health 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 of programs, including retraining.
Demand for better-quality health care by 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 health care.	Private insurance plans reduce payment to providers, shifting cost to households.

Source: World Bank, *World Development Report*, 2006.

public and private components of the system. Table 21 shows the major problems confronting transition economies, the reform measures introduced, and the consequences.

b. Low- to lower-middle-income transition countries (for example, Cambodia, China, and Vietnam)

In urban areas, low- to lower-middle-income transition countries have faced problems similar to those of more developed transition economies. They

have implemented similar reforms and experienced similar consequences. In addition, these countries have had problems in 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 has usually allowed physicians to establish private practices and patients to pay for care on a fee-for-service basis. In government facilities, under-the-table payments have become widespread. The funding base for rural health stations, staffed by modestly trained health practitioners (for example, village doctors), also collapsed. These practitioners then 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 have had to pay directly for their hospital costs, throwing many into poverty.

6. Guideposts for Macroeconomists

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

In transition economies, economic policymakers often do not have a good understanding of what the government's role in the health care sector should be. In the allocation of public resources, policymakers should give priority to public health and disease prevention, and to subsidies for poor and low-income households, instead of seeking to maintain the jobs and protect the incomes of government-employed health practitioners. Policymakers often assume that the health sector can follow the same policies as other economic sectors, because they do not recognize the serious market failures that exist in health care markets. They typically do not recognize that 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 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 to face rapid health care cost inflation, increasing inequality in access to health care, and inefficiency. Moreover, tobacco excise taxes should be instituted, and the use of generic drugs should be strongly encouraged, following such practices as in the United States.