CHAPTER

5 Conceptual Framework for Classifying Health Systems

Like other socioeconomic systems, a health system is structured by state action or inaction to serve certain social purposes. A state makes conscious decisions in structuring the system to achieve certain objectives or takes no action, allowing the system to become a laissez-faire free market system. Simply put, *a health system is a means to an end.* It exists and evolves to serve societal needs. Under this paradigm, a health system is a set of relationships in which the means—structural elements of the system—are *causally* connected to the ends or goals.

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

In what follows, a simple conceptual framework is elaborated that can be used to describe and analyze the functioning of a health system. This framework is used in Chapter 6 in characterizing the different types of health systems prevailing at different stages of development.

A. Ends: Objectives

The objectives of a national health system can be ascertained from a country's legislative history and policy documents. There is a convergence of views around the world about the goals; namely, to improve people's health, prevent health-related impoverishment, and gain public support and satisfaction. The equitable distributions of these benefits have to be considered along with their average levels. At the same time, because resources are scarce and nations are constrained to optimize these goals subject to budget constraints, affordability is often stated as an important health system goal. These objectives can be decomposed into their equity and efficiency dimensions, in effect going beyond the usual economic concerns that exclusively focus on efficiency (Okun, 1975). Table 6 provides a summary of these multiple objectives and also illustrates the possible trade-offs between them.

Achieving multiple goals under a budget constraint requires difficult trade-offs. Each nation has to wrestle with two types of trade-offs: intersectoral and intrasectoral. In deciding how much to spend in total on health (that is, the budget constraint for the whole sector), governments also have to consider the relative benefits produced by spending on nonhealth sectors—education, housing, environmental protection, research, and defense—in terms of improved health outcomes as well as other societal objectives.

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

Table 6. The Objectives of a Health System

	Objectives (Outcomes)		
Dimensions of Outcomes	Health status	Risk protection	Consumer satisfaction
Average level			
Degree of equity in the distribution			

The most frequent debate is about the trade-off between efficiency and equity *within* the health system. For example, at the margin, every nation has to find a balance between excluding co-insurance to advance equal access to health care and imposing co-insurance to promote efficiency, or between investing in the most advanced expensive cancer treatments to improve the average level of health and building hospitals in remote areas to improve equity in health.

B. Means: Structural Elements

In the architecture of a health system, there are five major causal structural elements (the means), as identified by previous research, to achieve these goals: financing, organization, payment, regulation, and persuasion (Hsiao, 2000; and Roberts and others, 2003). We provide a brief summary of each.

1. Financing and Its Institutional Organization

Financing refers to the way in which money is mobilized and how it is used. It is a major structural element that affects outcomes, such as health status and its distribution, and risk protection. Financing consists of at least four principal instruments: financing methods, allocation of funds, rationing, and institutional arrangements for financing (see Gottret and Schieber, 2006).

There are five financing methods for health care, of which a national (or social) health insurance system is one. Other methods include general revenue, private insurance, community financing, and out-of-pocket payment. The choice among the major methods of financing determines the amount of funds available for health care, who bears the financial burden, and who controls and allocates the resources.

The method chosen to finance health care largely determines the type of organization (that is, public, quasi-public, nonprofit private, or for-profit private) that has to be established to administer the financing programs and allocate the resources. The transaction costs, political influence, and governance vary by the different forms of organization. For instance, public organizations (for example, national health service agencies) are influenced more by politics, whereas quasi-public organizations (for example, independent social insurance fund agencies) are less so. The allocation of resources and chances for corruption are affected accordingly.

Once mobilized, financial resources then have to be allocated for different types of health care. Allocation criteria consider factors such as equal access to health care for all citizens, health gains, insurance protection, and satisfaction of the public's demands. Whatever reasonable health services a publicly or community-provided health system cannot offer free of charge (or supply in sufficient quantity to satisfy patients' demand because of the budget constraint) have to be rationed through such methods as price, waiting time, or inferior quality.

2. Organization for Delivery of Health Care

Organization refers to the broad structure used to organize health care provision. It primarily affects how individual health providers are organized and managed. International experience shows that decisions on organization significantly impact the efficiency and quality of health services and availability. These outcomes in turn affect health status, total health expenditure, and the level of public satisfaction.

The organization of how services are provided involves four choices: competition, ownership, decentralization, and integration. Perhaps the most critical choice is whether to rely on publicly funded government facilities or to allow private providers to play a major role in health care delivery. International experience tends to show that public health service facilities are, in general, less efficient and less user friendly. Alternatively, a nation can create competition among public and private providers. However, as noted above, serious market failures are common in the health services market. For-profit facilities can engage in cream-skimming, price gouging, and demand inducement. Remedying these market failures and maintaining effective competition require sound payment systems and regulations.

3. Payment or Incentive Structure

Payment refers to the methods by which the resources raised by financing are paid out to individuals and organizations. Payment is the principal instrument

for establishing incentives, and can thus have a measurable impact on the efficiency and quality of the health services provided. A payment system for health providers has two parts: the method of payment and the amount of payment per unit. The former creates two different kinds of incentives for patients and providers—financial reward and risk bearing. Different payment methods shift financial risk to different players in the system (see Gottret and Schieber, 2006).

The incentive structure established for providers affects cost, efficiency, and the quality of health services. Providers can be paid by different methods (for example, fee-for-service, salary, capitation, or per admission adjusted for case mix), and each method affects providers' behavior differently. How physicians (or nurses) are paid also influences what treatment modality physicians will select, how services will be produced, how many hours practitioners will work, and how many qualified physicians will enter the market to supply services. Payment also has a powerful impact on hospitals in terms of how they organize and manage their activities and staff; whether they combine preventive, primary, and tertiary services; and the quality of the health care they provide.

4. Regulation

Regulation refers to the government's use of its coercive power to impose constraints on organizations and individuals. An effective regulation requires good design and wording as well as the ability of a government to ensure enforcement. There can be many failures in establishing and executing regulations. In addition, regulators can be captured—instead of advancing the public interest, the "captured" regulatory agency can promote the interests of the regulated.

In health systems, regulations are established for four major purposes: (1) to provide safety protection to improve the health of the general population; (2) to set the rules of the game for transactions and exchanges in order to improve efficiency and quality of health services; (3) to enhance social equity by ensuring that everyone has access to basic health care; and (4) to correct market failures in order to enhance efficiency and the quality of health care and insurance products.

5. Persuasion

The private sector and the government have one additional and powerful means to achieve health system goals: influencing people's beliefs, expectations, lifestyles, and preferences through advertising, education, and information dissemination. Private commercial firms have long used advertising to inform the population and to sell their products. Our beliefs

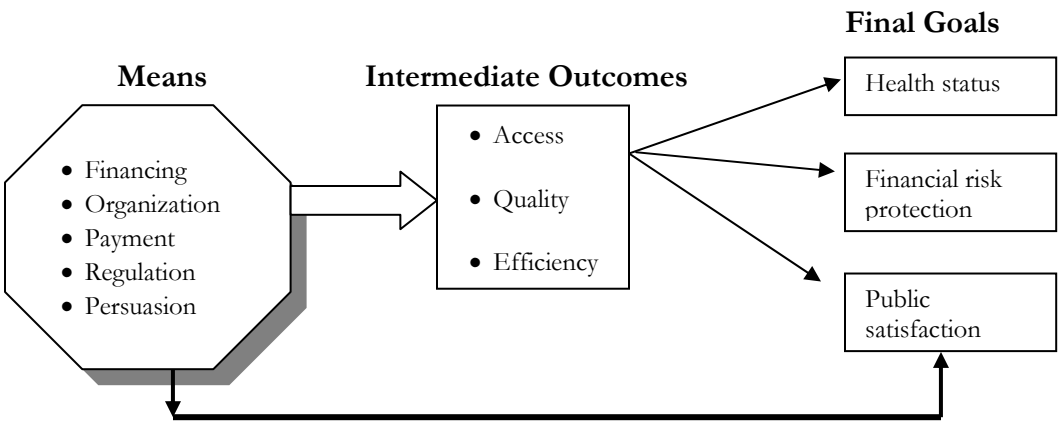
and preferences are shaped substantially by these advertisements (Galbraith, 1967). Governments also influence our beliefs, expectations, likes, and dislikes through education, information, and indoctrination. Good examples are the anti-tobacco campaign pursued by governments around the world and nutrition and exercise campaigns in the United States. Similarly, the government of Taiwan Province of China carries out major public education programs in health education, prevention, and promotion. Their impacts, however, have not been systematically evaluated with evidence.

Persuasion also has a powerful impact on the supply side. Professional ethics is taught in medical schools and instills the belief that physicians should balance social benefits with their self-interest. The Internet is proving to be a powerful means for persuasion, both actively by governments and the private sector and passively, as individuals learn about health risks and treatment possibilities.

6. Summary of Ends and Means

Figure 6 illustrates the relationship between structural elements (means) and outcomes (ends). We can use this framework to analyze and explain how the changes in outcomes arising from the introduction of a national health insurance system are likely to be influenced by the characteristics of its structure in terms of the five means described above.

Figure 6. Means, Intermediate Ends, and Final Ends of a Health System



C. Control Knobs for Policy

1. Control Knobs for Equitable Health Care

Many factors determine the health status of a population and its distribution. Health care is only one of these factors, albeit a major one. Several other determining factors lie outside the dominion of health care, for example, the education level of women, the degree of environmental pollution, and the availability of sanitation. However, the relative impact of the multiple determining factors is still unclear. Moreover, we do not know the relative effectiveness of policy instruments in producing equitable health. In contrast, we do have some understanding of how to alter people's access to health care and how to provide risk protection.

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

2. Control Knobs for Efficiency (Cost-Effectiveness)

There are two kinds of efficiency to consider: allocative and technical. *Allocative efficiency* depends on who controls financial resources and has the power to allocate them. This allocation has to balance at least two objectives—the cost-effectiveness of improving risk protection and the level of health status. Allocative efficiency is also affected by the incentive structure. Patient demand for health care is affected by the amount patients have to pay when they demand services, both in monetary terms and in terms of time. Similarly, payment mechanisms for physicians create incentives that determine whether they provide the most cost-effective services.

Technical efficiency is affected by how health services are organized and by the incentive structures facing the provider organization. For example, an organizational arrangement in which the government finances and directly manages hospitals has been shown to be relatively inefficient. Technical

efficiency is further influenced by regulations, such as those governing the use of generic drugs.

3. Control Knobs for Consumer Satisfaction

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

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

4. Control Knobs for Managing Health Expenditure Inflation

Steadily rising per capita health expenditure, which has exceeded the growth rate of per capita GDP, has exerted pressure on government budgets and household incomes. In the past 25 years, all advanced economies have tried to constrain the level of health expenditure inflation to a socially acceptable level. With the exception of the United States and Switzerland, the major advanced economies have, at least to date, found effective ways to manage health expenditure inflation. The methods of financing and organizing health care seem to be the key. Two approaches have proven effective when financing is through multiple insurance plans. One is to establish a global budget covering all the plans, with a single channel of payment to providers. The other approach is to finance health care with general revenue. General revenue financing requires the health budget to compete with other social and economic priorities in the political arena. At present, the advanced economies are principally wrestling with the question of how to control expenditure inflation in such a way that demand and supply are in reasonable balance, while improving the efficiency of services and the quality of care.